

**SCDHEC OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT  
PERMIT APPLICATION PUBLIC NOTICE**

**February 26, 2009**

**Permit Number:** OCRM-09-819-G  
**Permit ID:** 65696

The SCDHEC Office of Ocean and Coastal Resource Management has received an application for a permit for the alteration of a critical area. This application was submitted pursuant to the Coastal Zone Management Act (Act 123) of the 1977 South Carolina General Assembly. The application, in brief, is described as follows:

**APPLICANT:** Beaufort-Jasper Water & Sewer Authority  
C/o Slight Environmental Consultants  
1815 A Boundary Street  
Beaufort, SC 29902

**LOCATION:** On and adjacent to Albergoottie Creek and Archers Creek at Parris Island Recruit Depot To MCAS, Beaufort,  
Beaufort County, South Carolina.  
TMS#: NONE.

**WORK:** The work, as proposed and shown on the attached drawings, consists of the installation of a pipeline from the U.S. Marine Recruit Depot at Parris Island to the Port Royal Island Water Reclamation Facility as well as from the U.S. Marine Corps Air Station. The pipeline will be approximately 14 miles long and will have five temporary impacts to 0.2685 acres of freshwater wetlands for clearing, excavation and backfilling of the trench. Also, there will be two critical area crossings per horizontal directional bore; approximately 900 feet under Albergoottie Creek and another under Archer Creek and its marshes for 6,420 feet. There will be five additional critical area crossings that will have temporary impacts of 1.207 acres through excavation and backfilling of the trench. The project will also include the construction of a temporary access road to Jericho Island. This 0.18 acre of critical area impact will consist of geotextile fabric and limestone aggregate base material with filter fabric. This will be removed from site upon completion of the proposed construction. The purpose of the project is to provide upgrades and safety improvements to the existing water and wastewater utilities at U.S. Marine Corps Air Station and the U.S. Marine Recruit Depot, Parris Island.

This public notice is being distributed to all known interested persons and agencies to assist in developing facts on which a decision by OCRM can be based. Comments concerning the proposed work should be submitted in writing, setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition.

The decision to issue or deny a permit will be based on the individual merits of the application, the policies specified in the South Carolina Coastal Zone Management Act, and the considerations outlined in the State of South Carolina Coastal Zone Management Program. Interested parties who wish to be notified of final permit action must notify OCRM in writing of this request.

*To assure review by OCRM, comments regarding this application must be received by OCRM on or before March 29, 2009. For further information please contact the project manager for this activity, George J Madlinger at 843-846-9400.*

**PLEASE REPLY TO:**

SCDHEC OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT  
104 Parker Drive  
Beaufort, South Carolina 29906

Please refer to P/N# OCRM-09-819-G

*gjm*  
George J Madlinger, Wetlands Section Project Manager

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## **1.0 Introduction and Background:**

Beaufort-Jasper Water and Sewer Authority (BJWSA) has assumed ownership, operations, and maintenance of the water and wastewater systems at the U. S. Marine Corps Recruiting Depot at Parris Island, the Laurel Bay Housing, the Naval Hospital, and the U. S. Marine Corps Air Station, all located in Beaufort, South Carolina. This Military Wastewater Consolidation Project includes the elimination of the military wastewater plants at the Marine Corps Air Station and Parris Island, and will include the installation of new pipelines from these two facilities to the Port Royal Island Water Reclamation Facility, owned and operated by BJWSA.

## **2.0 Existing Site Conditions:**

The project corridor is composed of wetland and upland habitats which are typical for Beaufort County, South Carolina. The undeveloped areas found within the corridor consist of mature mixed pine/hardwood upland, bottomland hardwood forest, and salt marsh. The majority of the project corridor is found within existing SCE&G power line right-of-ways, Navy easements, and S.C. DOT right of ways, which contain existing residential and commercial developments.

### **Mixed Pine/Hardwood Upland:**

The mixed pine/hardwood upland habitat type is dominated by water oak (*Quercus nigra*), hickory (*Carya tomentosa*), loblolly pine (*Pinus taeda*), white oak (*Quercus alba*), live oak (*Quercus virginiana*), sweetgum (*Liquidambar styraciflua*), holly (*Ilex opaca*), and magnolia (*Magnolia grandiflora*) in the overstory. The understory species include horse-sugar (*Symplocos tinctoria*), sweetgum, water oak, wax myrtle (*Myrica cerifera*), sparkleberry (*Vaccinium arboreum*), American beautyberry (*Callicarpa americana*), and fetterbush (*Lyonia lucida*). Herbaceous species include dwarf palmetto (*Sabal minor*), bracken fern (*Pteridium aquilinum*), poison ivy (*Toxicodendron radicans*), broomsedge (*Andropogon virginicus*), blackberry (*Rubus betulifolius*), cinnamon fern (*Osmunda cinnamomea*), and partridge berry (*Mitchella repens*). The undeveloped portion of the project corridor contains a mature overstory of this habitat type with an estimated average age of 40 years.

### **Bottomland Hardwood Forest Wetland:**

The project corridor includes portions of several bottomland hardwood forest wetland areas. These areas are dominated in the overstory by red maple (*Acer rubrum*), black willow (*Salix nigra*), swamp tupelo (*Nyssa biflora*), water oak, red bay (*Persea borbonia*), sweetgum, slash pine (*Pinus elliottii*), and willow oak (*Quercus phellos*). The understory species include water oak, wax myrtle, sweetgum, sweet pepperbush (*Clethra alnifolia*), and fetterbush. Herbaceous species include cinnamon fern, giant cane (*Arundinaria gigantea*), Virginia chainfern (*Woodwardia aerolata*), smartweed (*Polygonum spp.*), lizard tail (*Saururus cernuus*), and netted chain-fern. The majority of this habitat adjacent to the proposed project has been impacted in the past by historic development, including road crossings.

### **Salt Marsh:**

The project corridor includes portions of several salt marsh wetland areas. This habitat type is dominated by plant species such as saltwort (*Batis maritima*), sea ox-eye (*Borrichia frutescens*), saltgrass (*Distichlis spicata*), needle rush (*Juncus roemerianus*), sea lavender (*Limonium nashii*), Glasswort (*Salicornia spp.*), smooth marshgrass (*Spartina alterniflora*), rough marshgrass (*Spartina cynosuroides*), and cord marshgrass (*Spartina patens*).

### **Developed Area:**

This habitat type consists of residential homes, maintained yards, roads, and commercial buildings adjacent to the project corridor.

## **3.0 Proposed Project:**

As part of the ongoing BJWSA regional infrastructure plan, BJWSA is consolidating the water and wastewater services at the U. S. Marine Corps Recruiting Depot at Parris Island and the U. S. Marine Corps Air Station, Beaufort, S.C. This effort involves the installation of a pipeline from the U. S. Marine Recruit Depot at Parris Island to the Port Royal Island Water Reclamation Facility as well as one from the U. S. Marine Corps Air Station. These pipelines total approximately 14 miles.

This infrastructure rehabilitation will require four temporary impacts to freshwater wetlands (crossings A, C, D, & E) with the discharge of dredged materials (excavation and backfill of the trench) during the

installation of the pipeline with limited mechanical clearing to allow equipment access during utility installation (see table). Although the project requires freshwater wetland impacts totaling 0.1415 acres, it should be noted that no change in pre-construction contours are proposed and all excess material will be removed from the site following completion of the proposed activities.

The utility line upgrade will also include two critical area crossings that will use a horizontal directional drill (crossings B & G) to install the utility line under the critical area (see table). These two crossings include one under the marshes of Albergottie Creek (approximately 900 feet) and one under Archer Creek and its marshes (approximately 6,420 feet). To facilitate these crossings, the applicant is proposing to install the force mains by directional drill to eliminate any impacts to the critical areas. The longest directional drill is from Jericho Island in the Shell Point area of Port Royal Island to the U. S. Marine Recruit Depot at Parris Island. While this directional drill will require an extensive lay down area for the fused pipe, no impact will occur to either freshwater or critical areas. Utilizing horizontal directional drilling at these locations will ensure minimal impact to the creeks and the surrounding marshes. BJWSA has identified the proposed route for the pipelines needed to deliver the wastewater to the Port Royal Island Water Reclamation Facility, and this alignment has been chosen based on the least community and environmental impacts.

The utility line upgrade will include four additional critical area crossings (crossings H, I, J, & K) with temporary impacts to 1.08 acres of critical area wetlands with the discharge of dredged materials (excavation and backfill of the trench) during the installation of the pipeline with limited mechanical clearing to allow equipment access during utility installation (see table). It should be noted that no change in pre-construction contours are proposed and all excess material will be removed from the site following completion of the proposed activities.

The project will also include a fifth critical area crossing that will initially consist of the construction of a temporary access road to Jericho Island (Crossing F), which will allow for the horizontal directional drilling equipment to access the exit location of the pipeline coming from U. S. Marine Corps Recruiting Depot on Parris Island. This temporary roadway will consist of a geotextile fabric covered with a limestone graded aggregate base material lined with filter fabric. Once the horizontal directional drilling is completed on Jericho Island and the drilling equipment is removed from the island, the temporary road and all of its components will be removed. The impact area associated with this critical area temporary roadway totals 8,014 square feet, or 0.18 acres, with a total fill volume of 580 cubic yards. The temporary impact to critical area wetlands associated with the pipeline installation at Crossing F totals 0.127 acres, and will consist of the discharge of dredged materials (excavation and backfill of the trench) during the installation of the pipeline with limited mechanical clearing to allow equipment access. It should be noted that again, no change in pre-construction contours are proposed and all excess material will be removed from the site following completion of the proposed activities.

#### **4.0 Compensatory Mitigation:**

The applicant is not proposing any compensatory mitigation for the 0.2685 acres of unavoidable project related jurisdictional wetland impacts, as it should be noted that no change in pre-construction contours are proposed and all excess material will be removed from the site following completion of the proposed activities.

#### **5.0 Threatened and Endangered Species:**

SECI completed a preliminary threatened and endangered species survey within the project corridor to determine the potential occurrence of animal and plant species listed as threatened or endangered by current state and federal regulations and is attached to this application package. As per the attached report, it is our opinion that the proposed project will not adversely impact any individual or population of any species listed in Beaufort County, South Carolina.

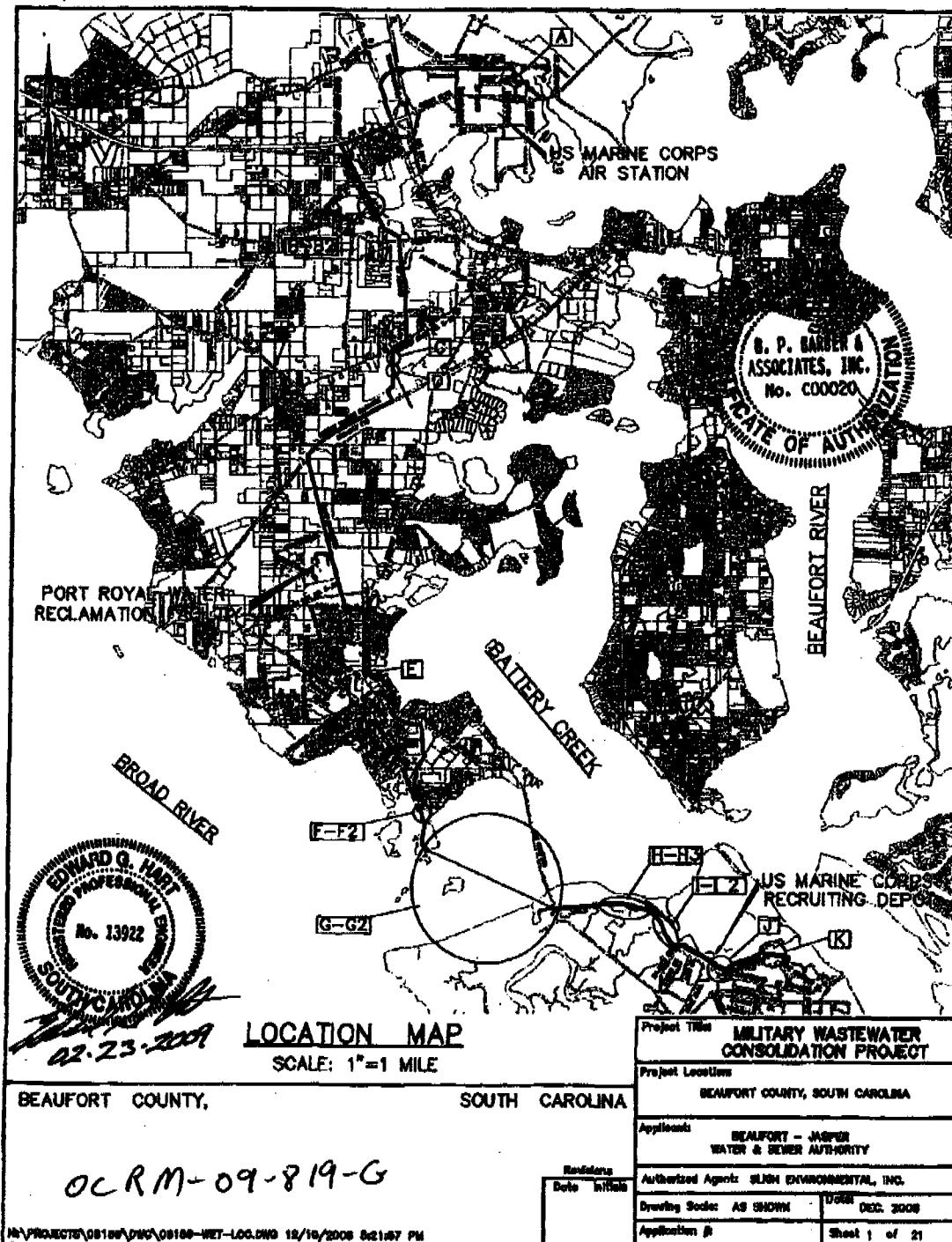
#### **6.0 Summary:**

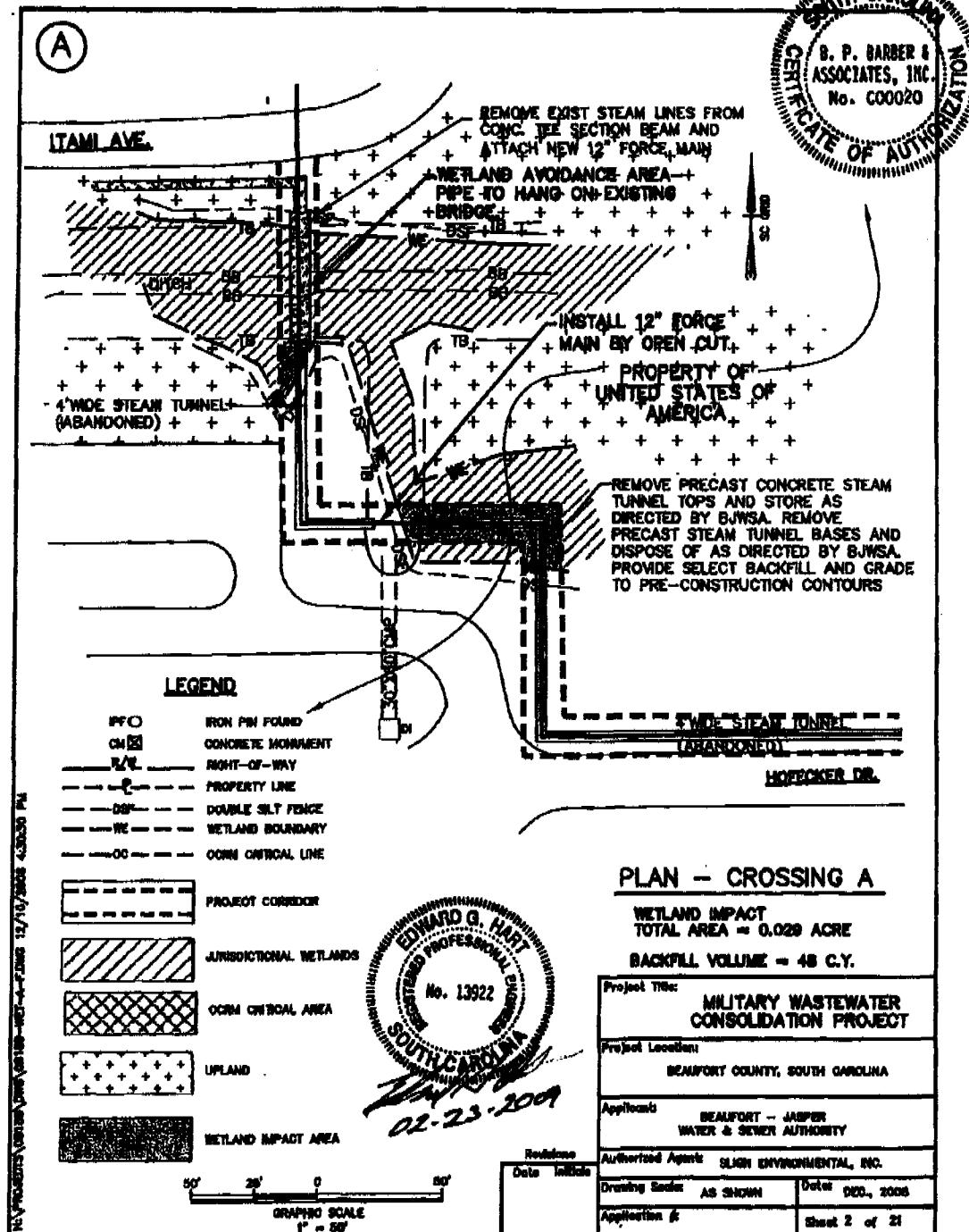
This wastewater consolidation project is being done to provide a number of upgrades and safety improvements to the existing water and wastewater utilities at the U. S. Marine Corps Air Station and the U. S. Marine Recruit Depot, Parris Island. Due to more restrictive Beaufort River discharge requirements, it will also result in the elimination of the two military wastewater treatment plants, with the wastewater flows being diverted to the new state-of-the-art Port Royal Island Water Reclamation Facility. BJWSA and

the consulting engineers have considered several alternatives for this project and have chosen a project corridor which utilizes existing right-of-ways and easements where possible. BJWSA has made every attempt to avoid and minimize wetland impacts to the greatest extent practicable while still satisfying the project purpose. No compensatory mitigation is proposed for the unavoidable wetland impacts, as no following completion of the proposed activities. All activities will be performed using best management practices (silt fencing, grassed slopes, etc.) to further avoid and minimize impacts to wetlands that are adjacent to the project corridor.

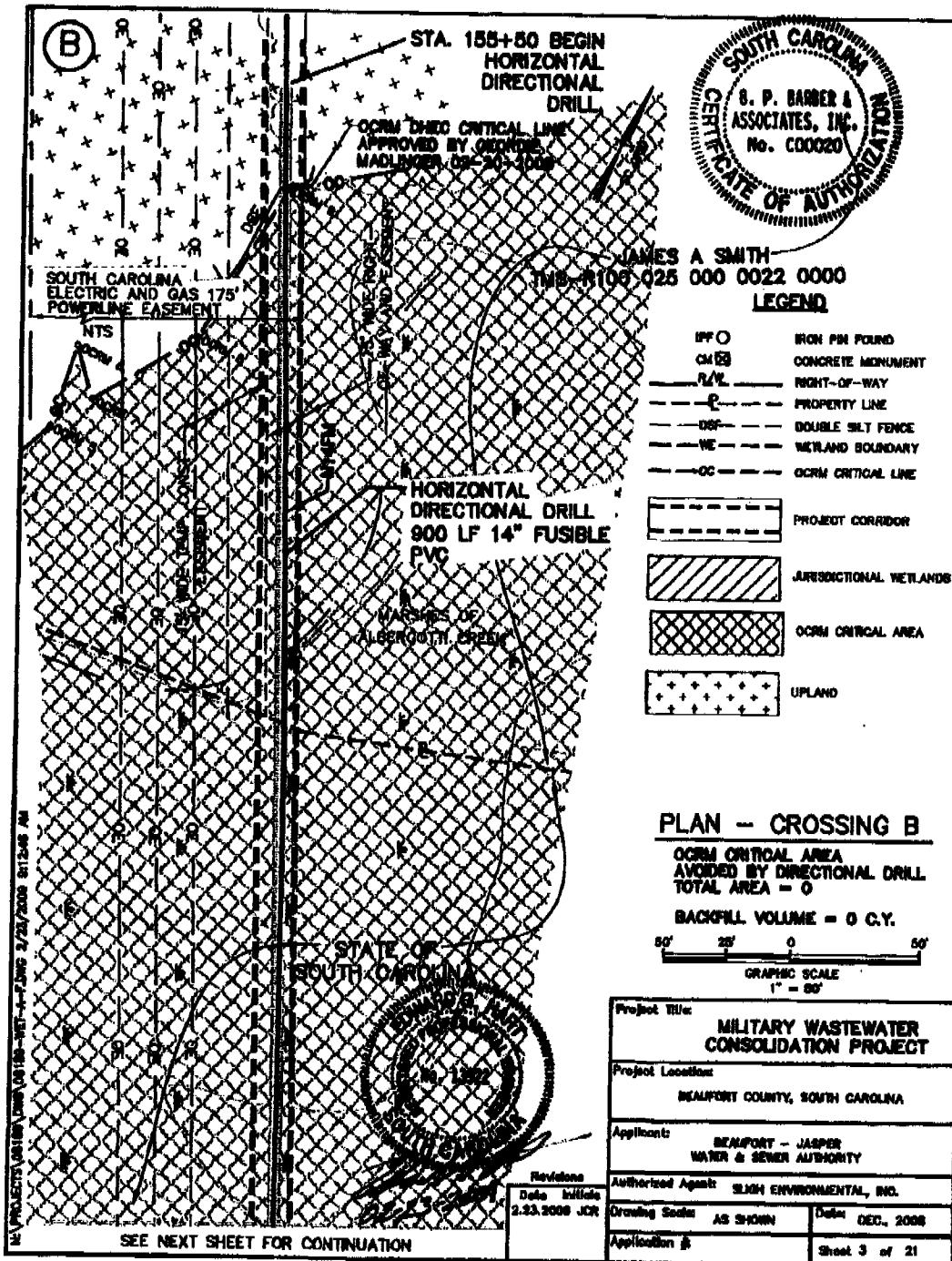
<u>Crossing</u>	<u>Freshwater</u>	<u>Backfill</u>	<u>Horizontal Directional Drill</u>	<u>Critical</u>	<u>Backfill Cubic Yards</u>
<u>Identification</u>	<u>Impact</u>	<u>Cubic Yards</u>		<u>Area Impact</u>	
A	0.029 acre	48			
B			X	N/A	N/A
C	0.08 acre	185			
D	0.0015 acre	4			
E	0.031 acre	72			
F				0.127 acre	275
G			X	N/A	N/A
H				0.776 acre	1752
I				0.255 acre	1151
J				0.042 acre	98
K				0.007 acre	15
<b>TOTALS</b>	<b>0.1415 acre</b>	<b>309 CY</b>		<b>1.207 acres</b>	<b>3,291 CY</b>

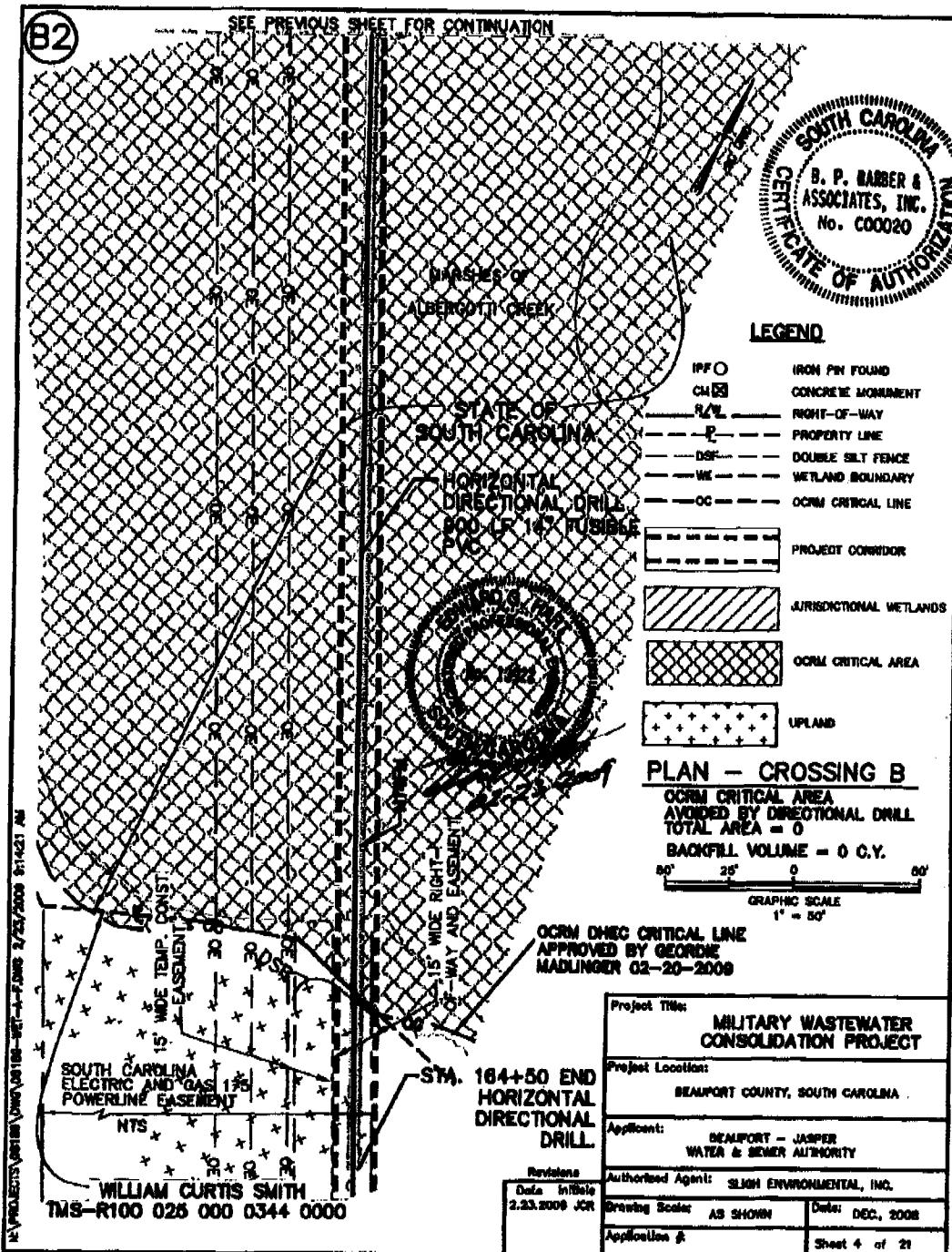


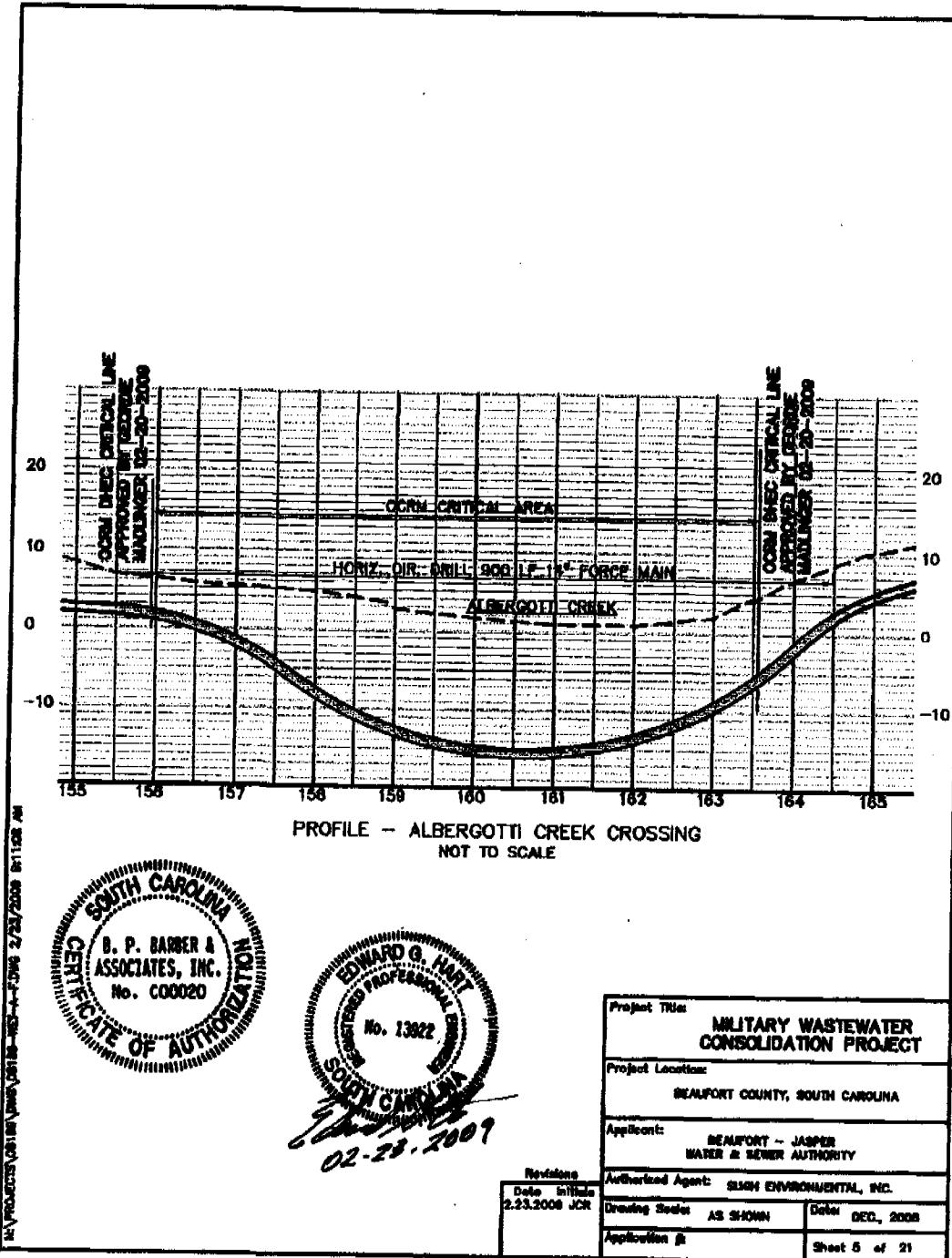




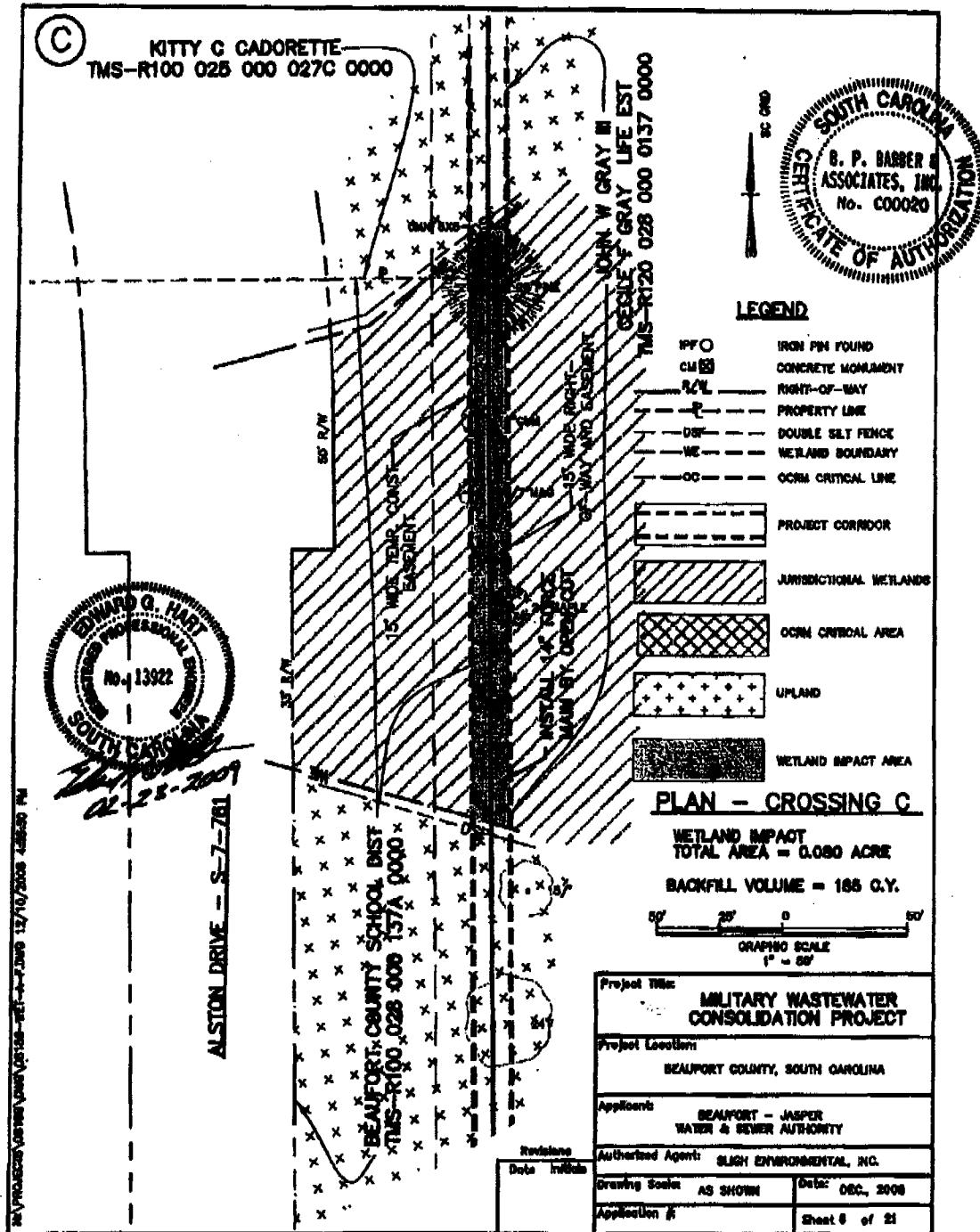
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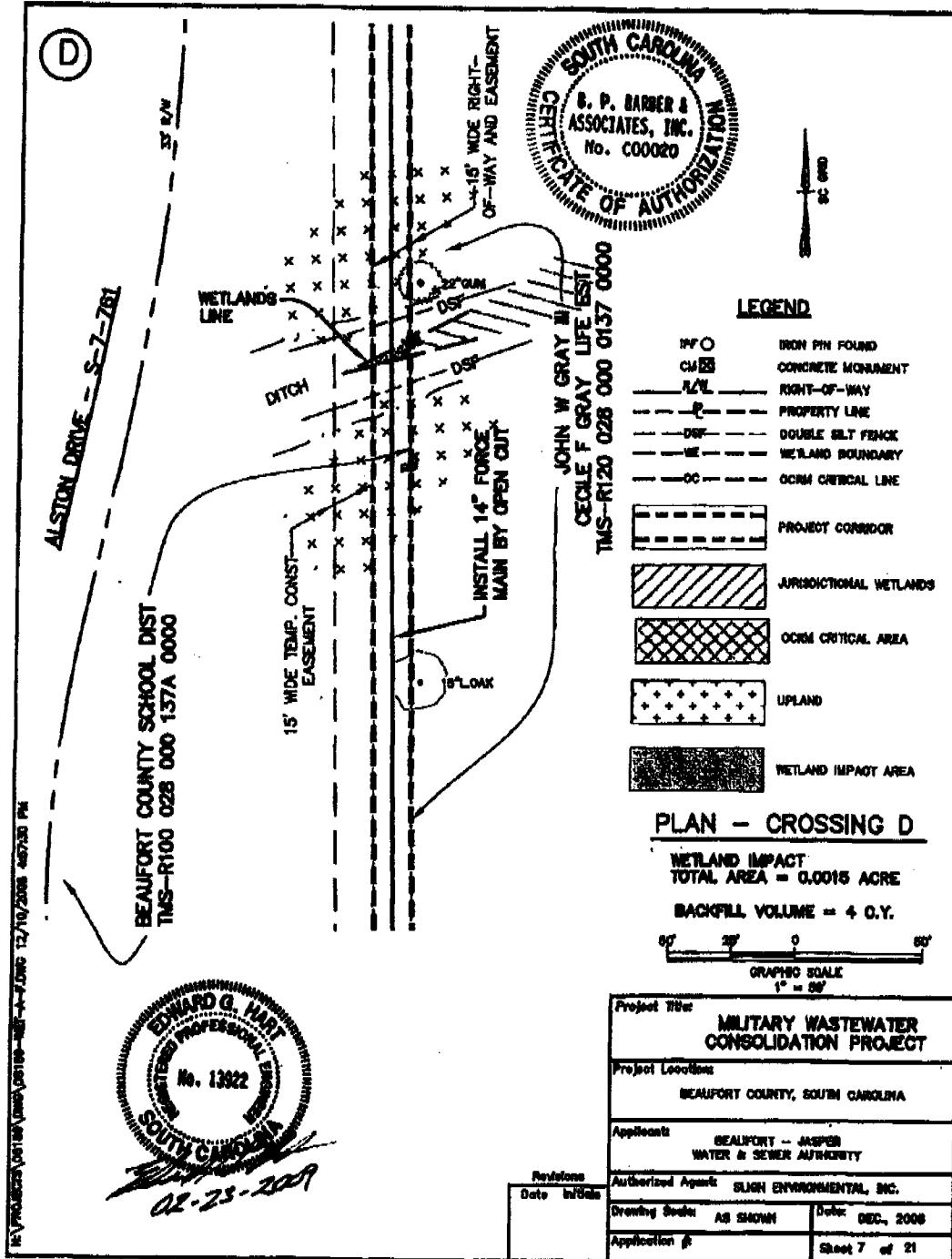


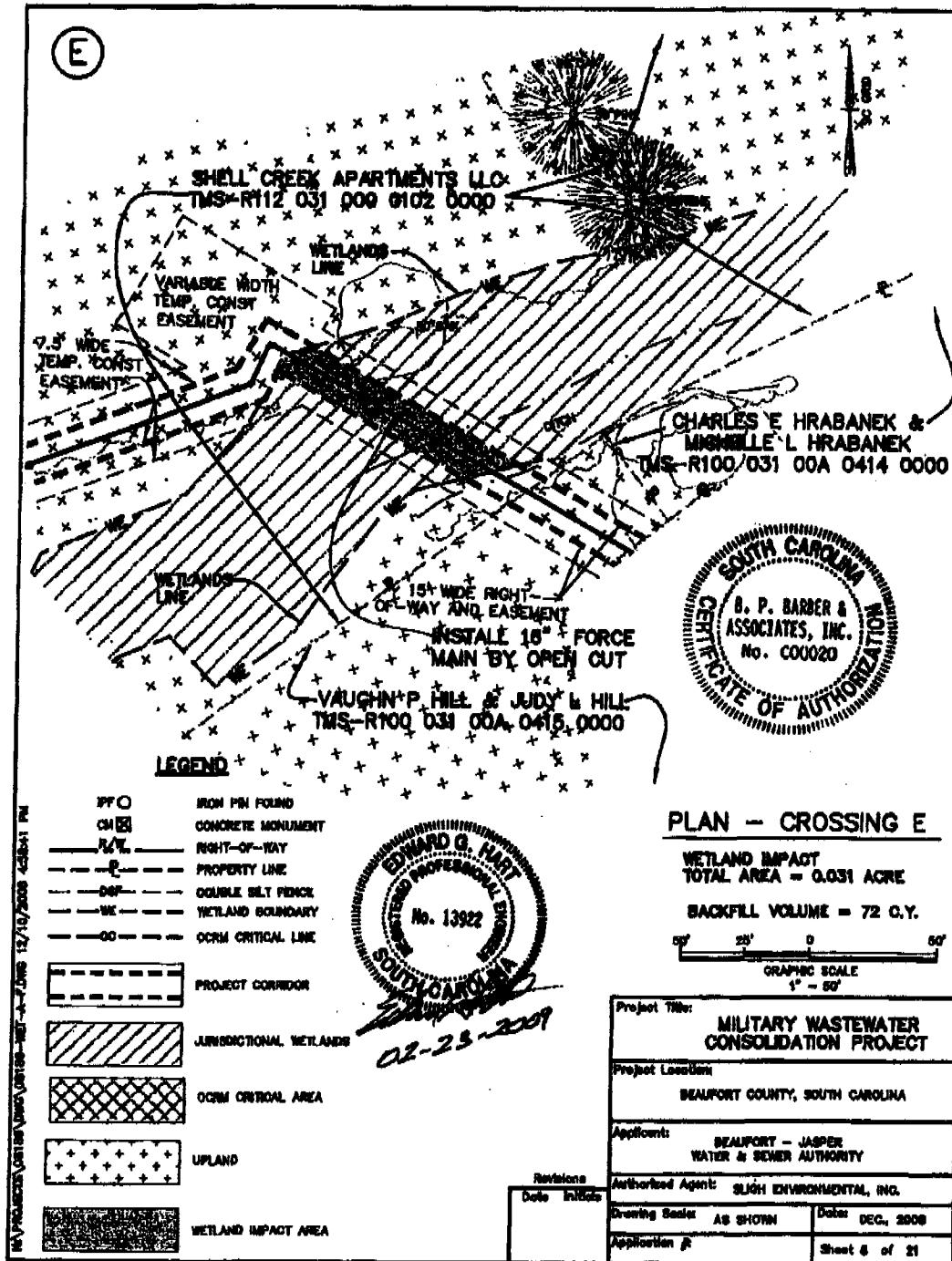




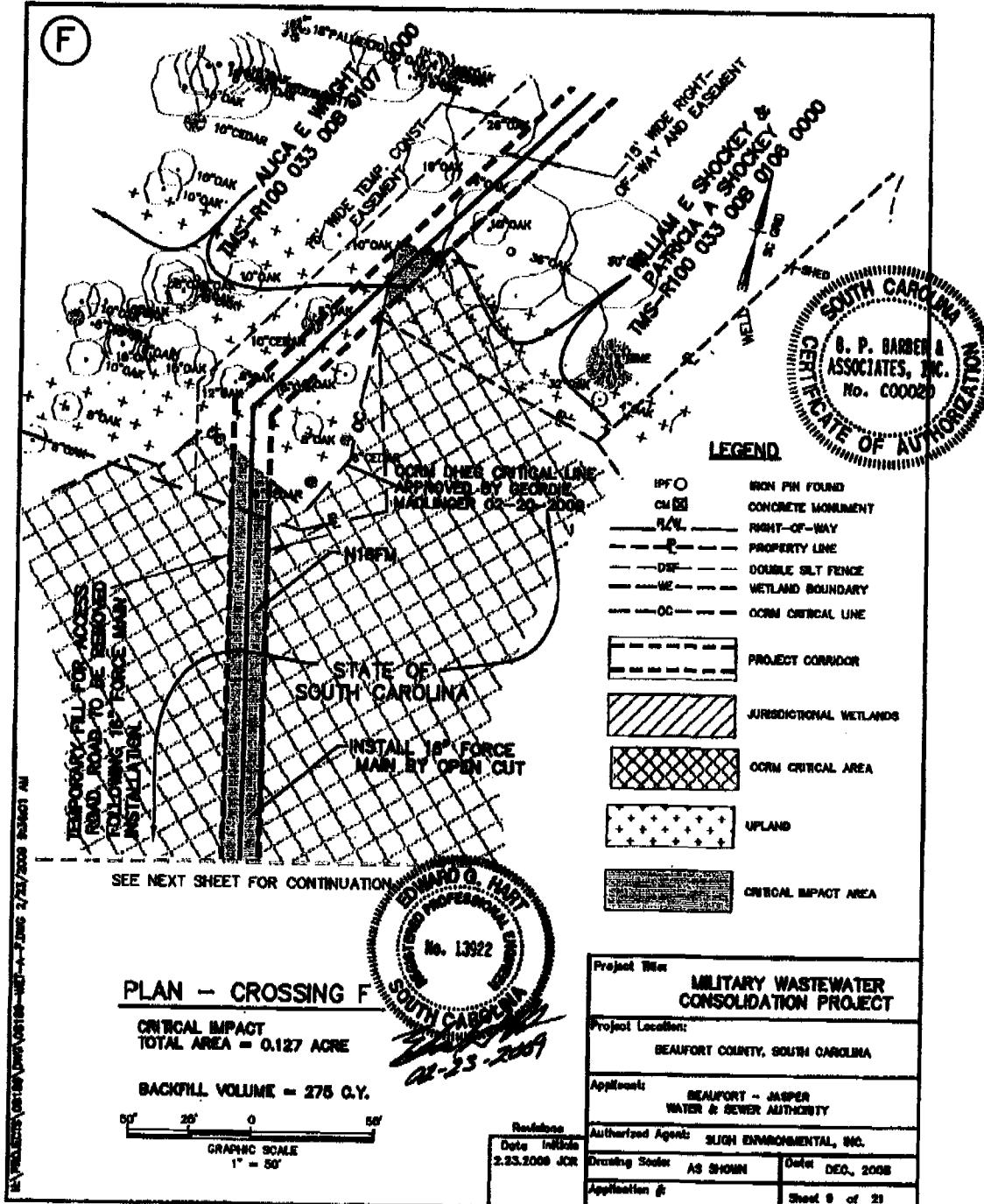
OCR M-09-819-G



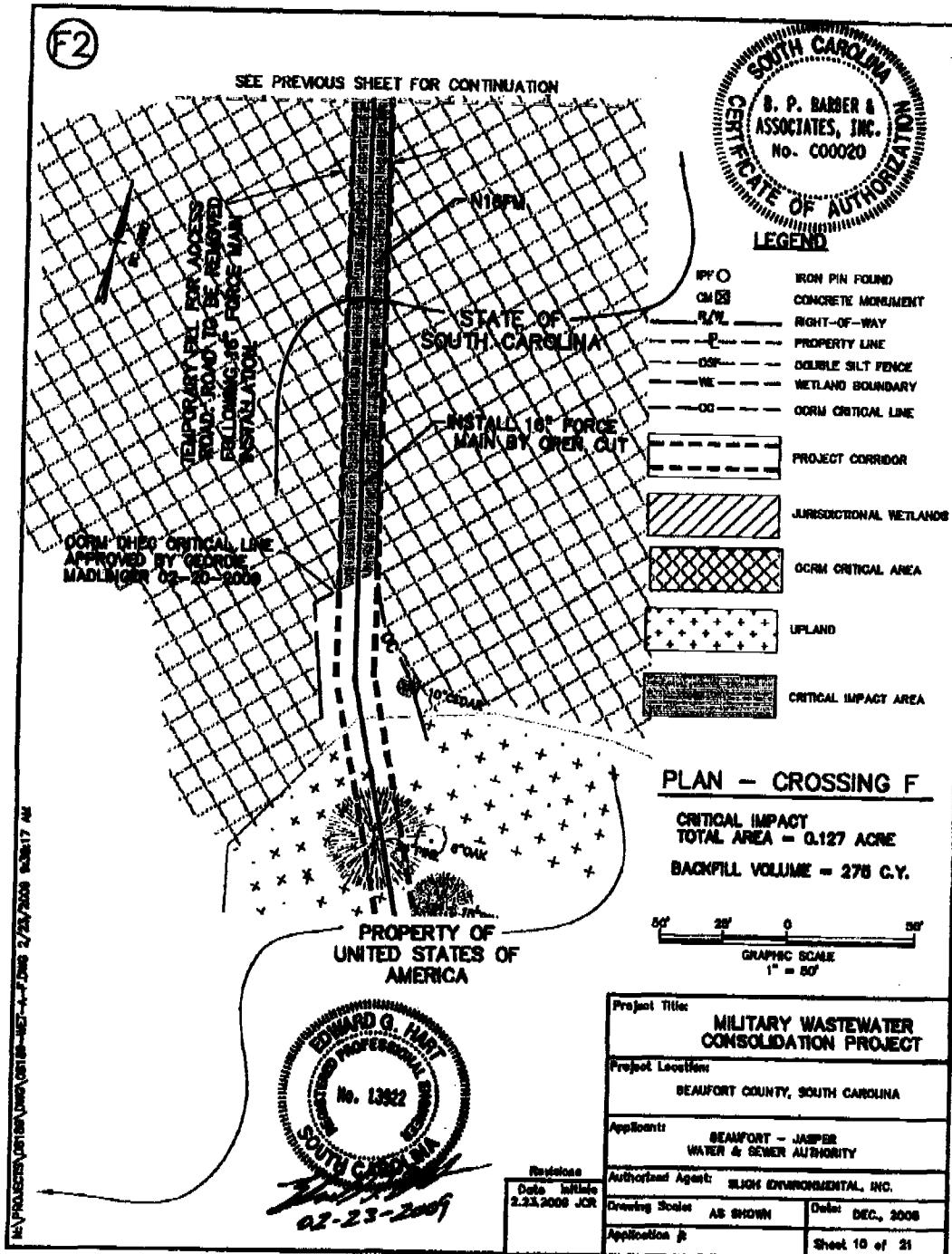




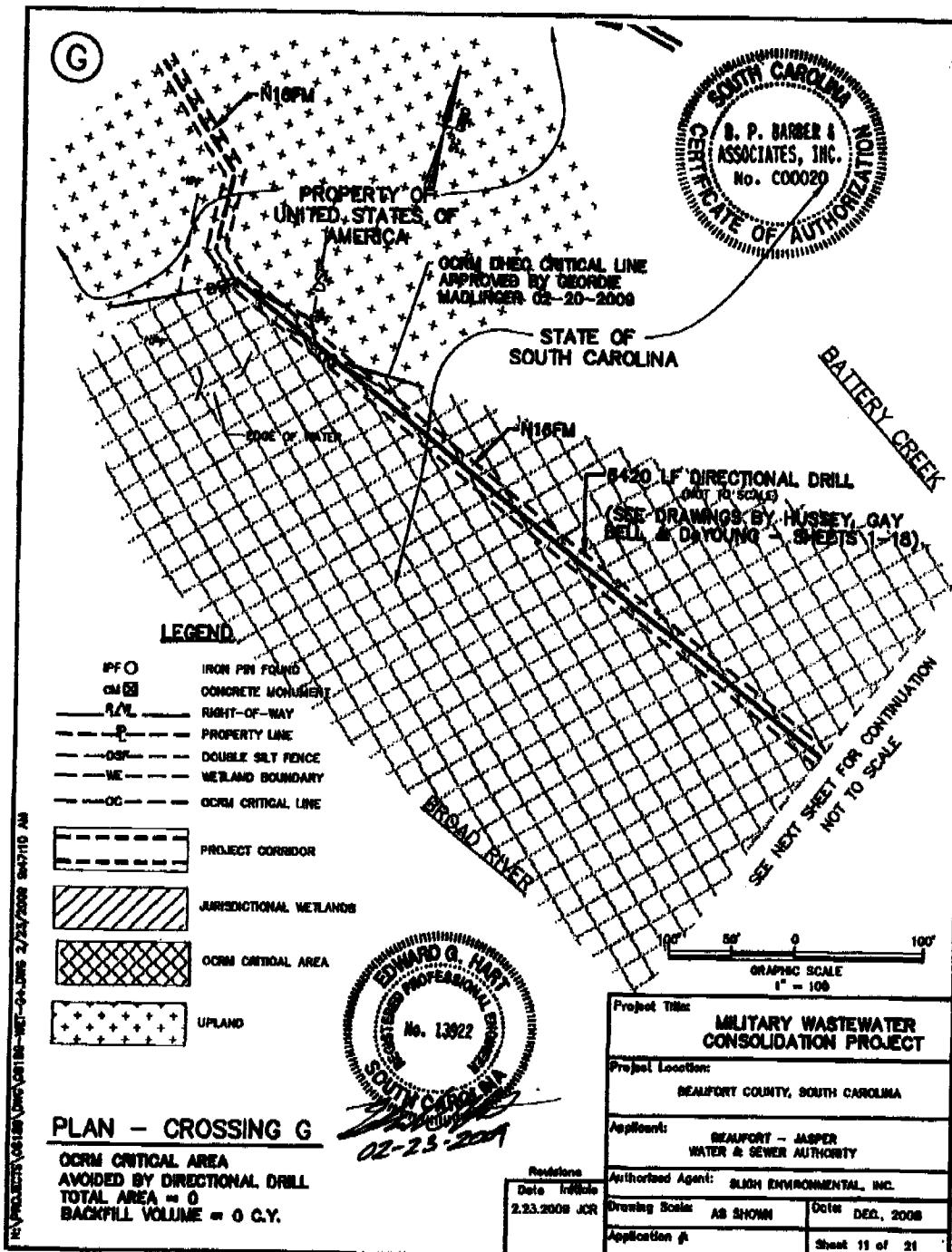
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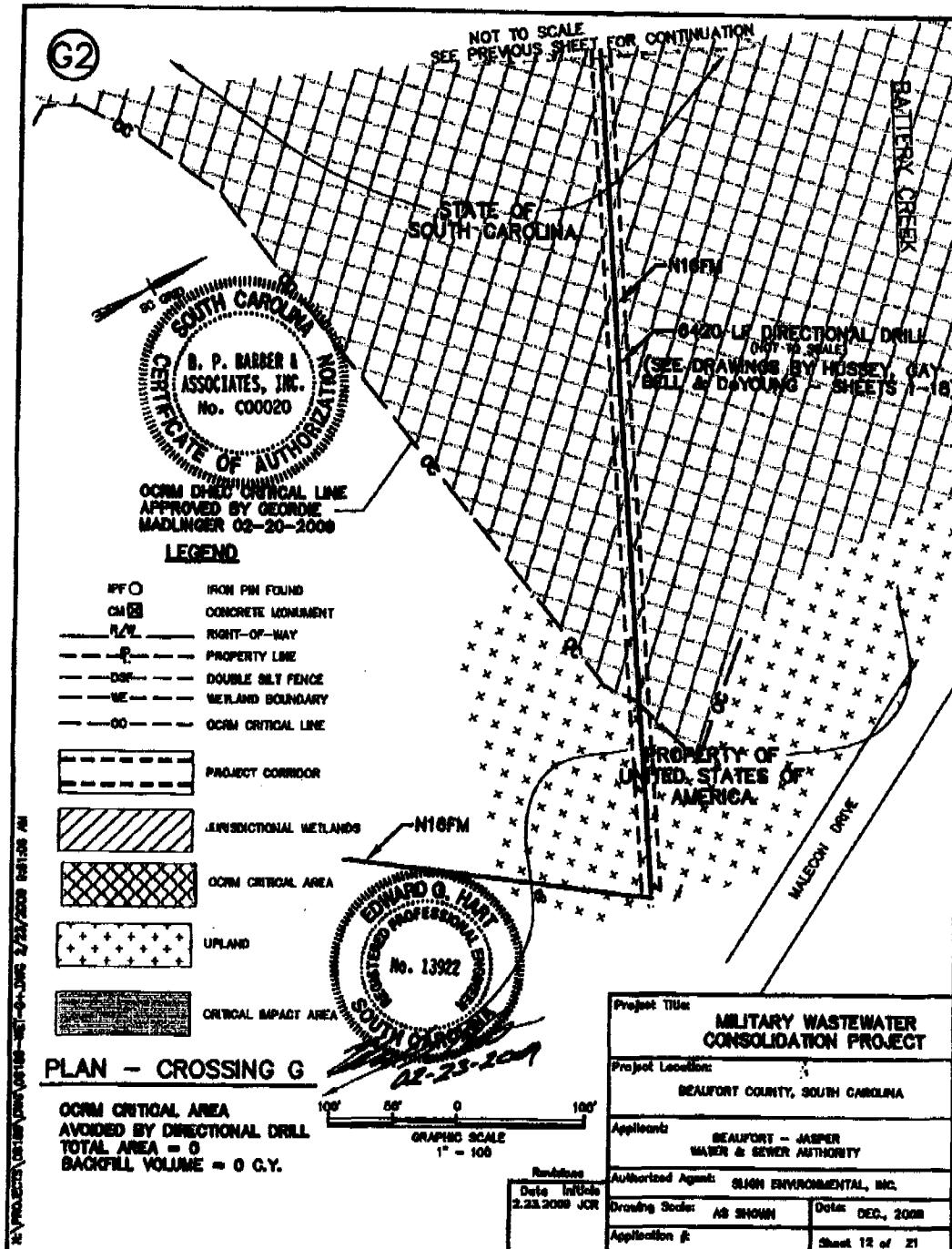
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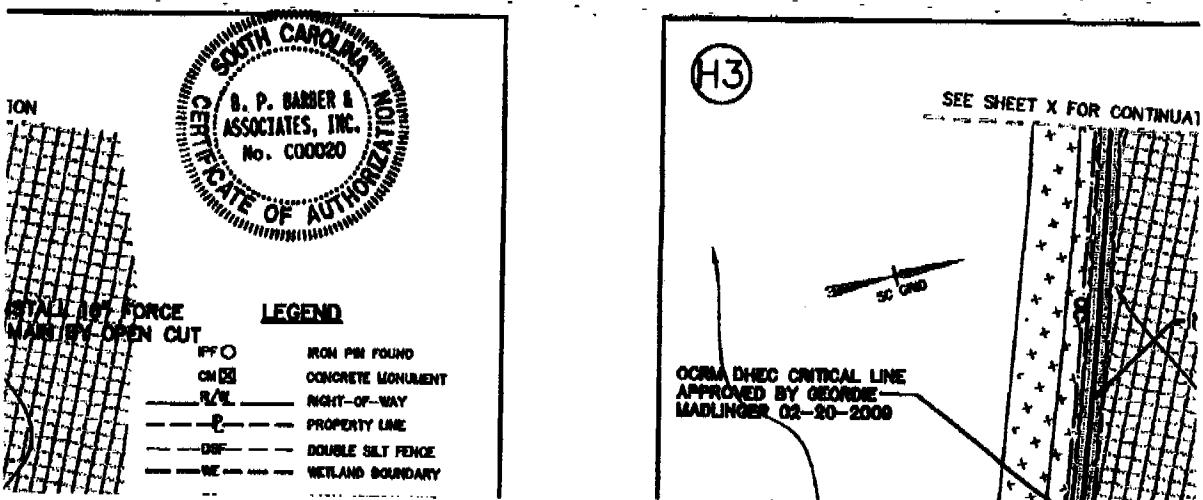
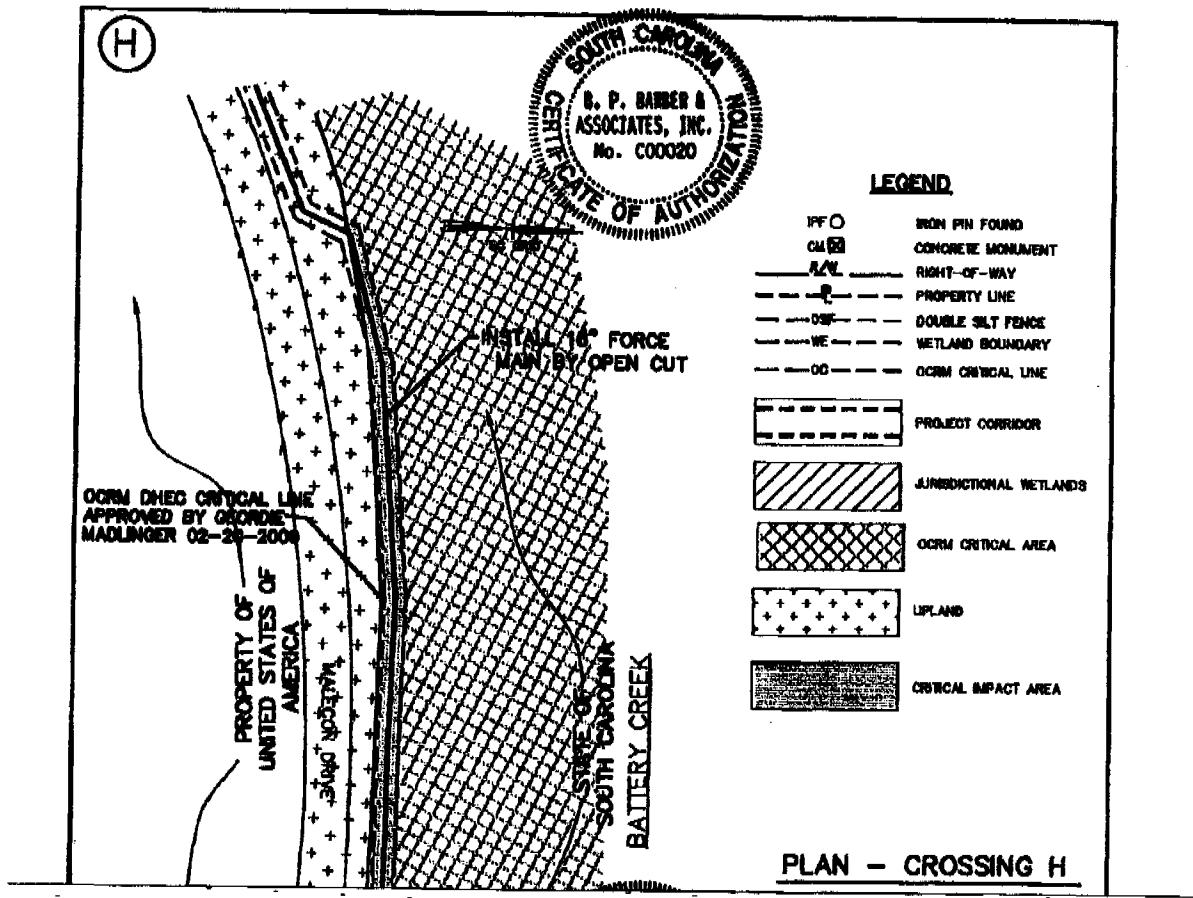
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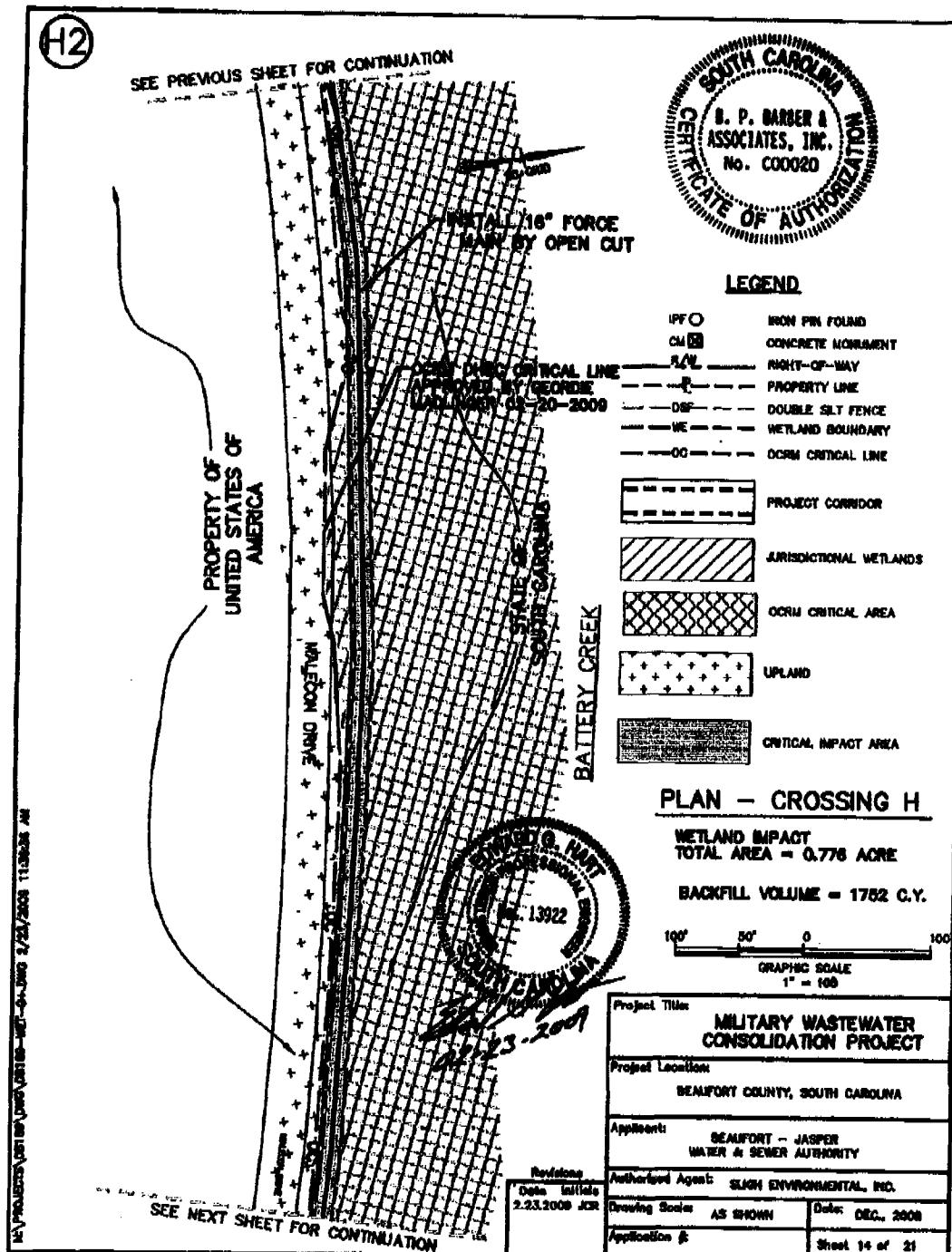
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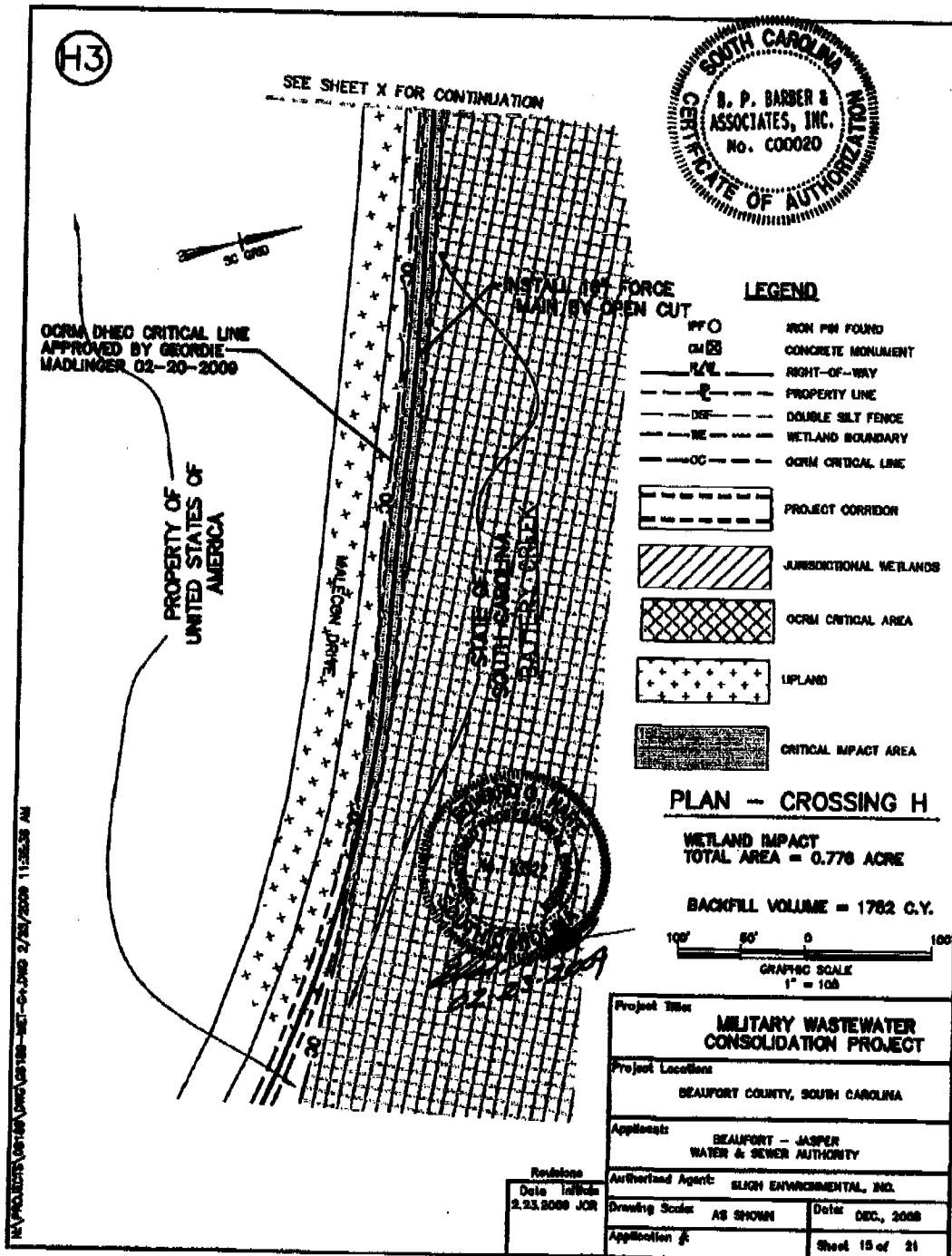
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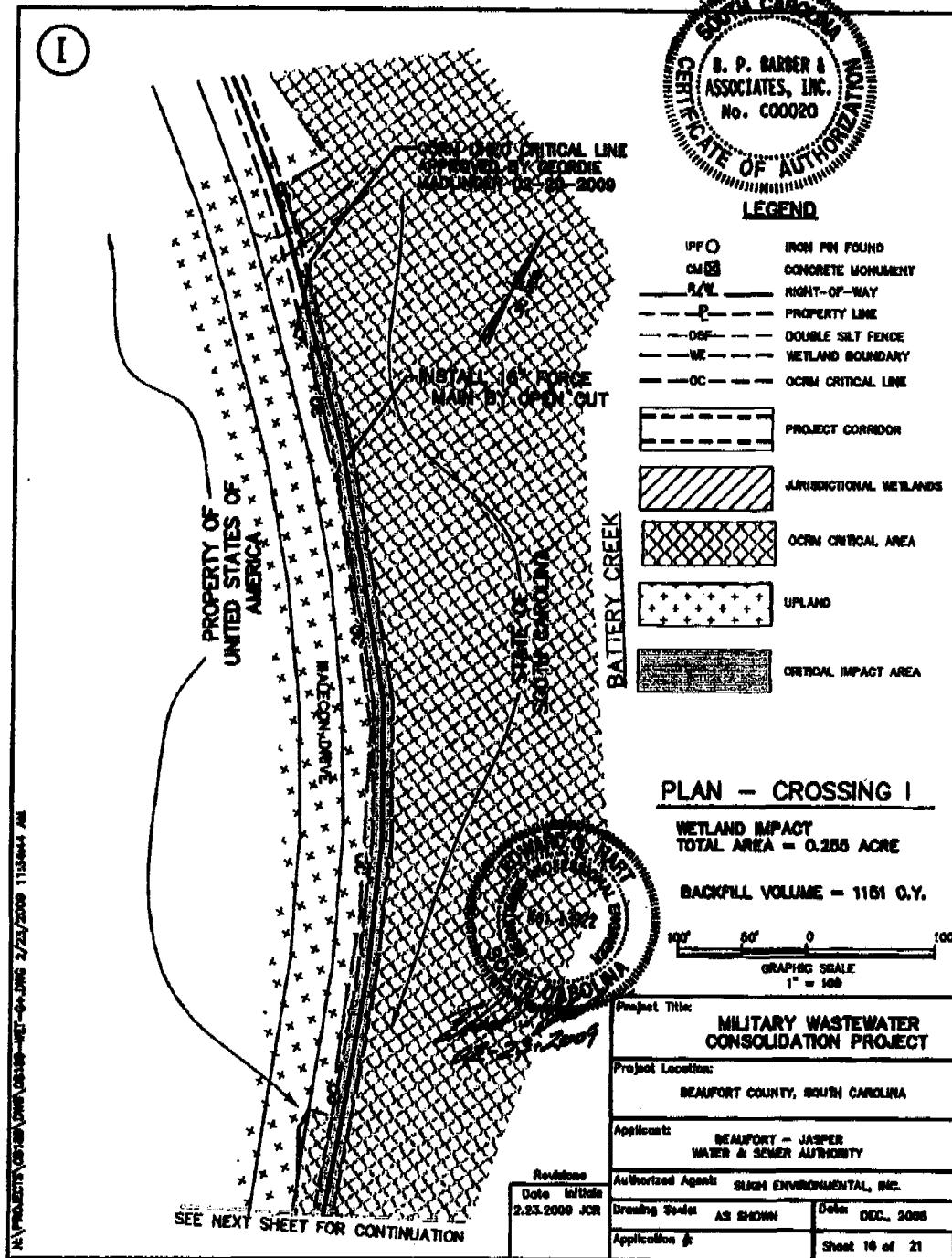
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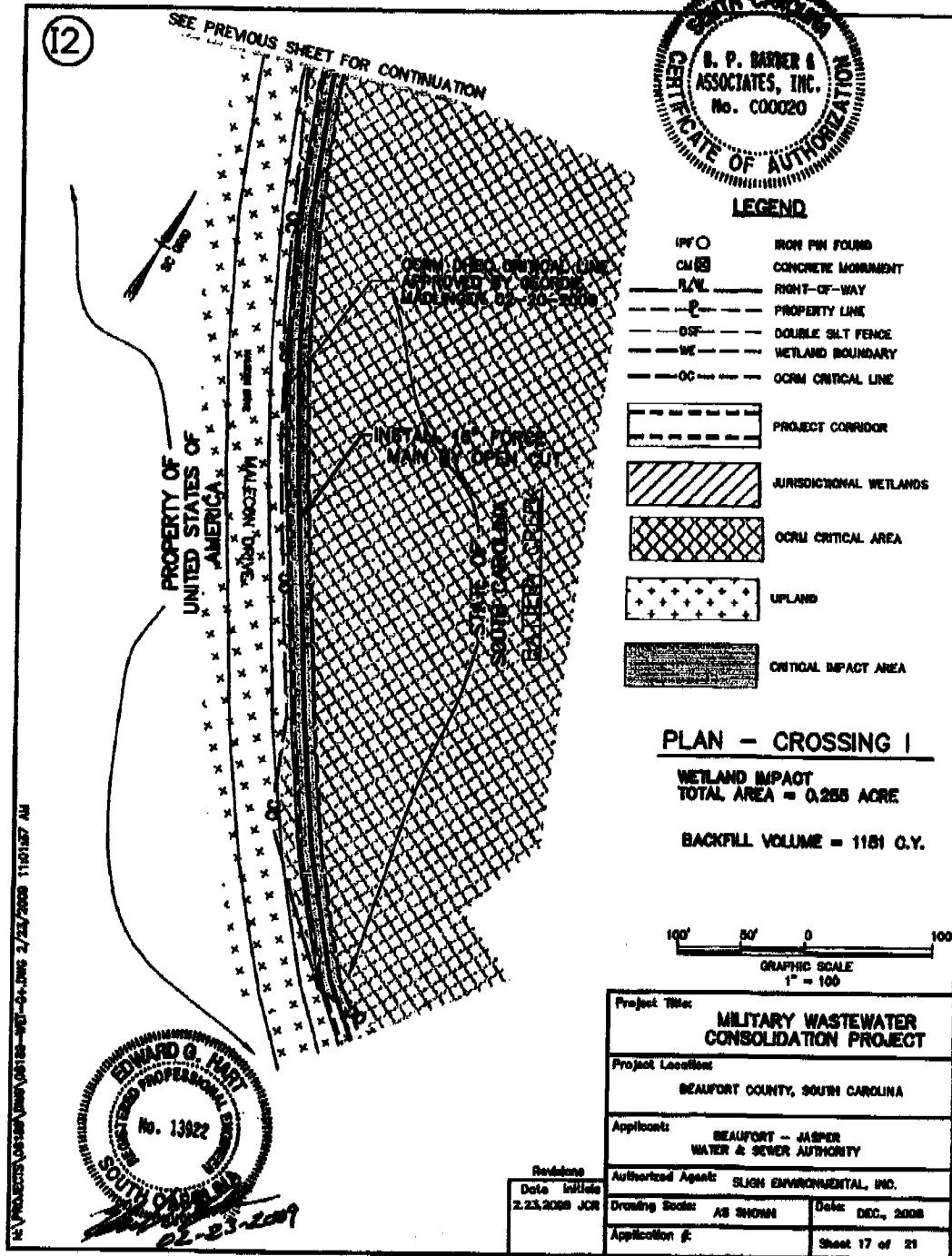
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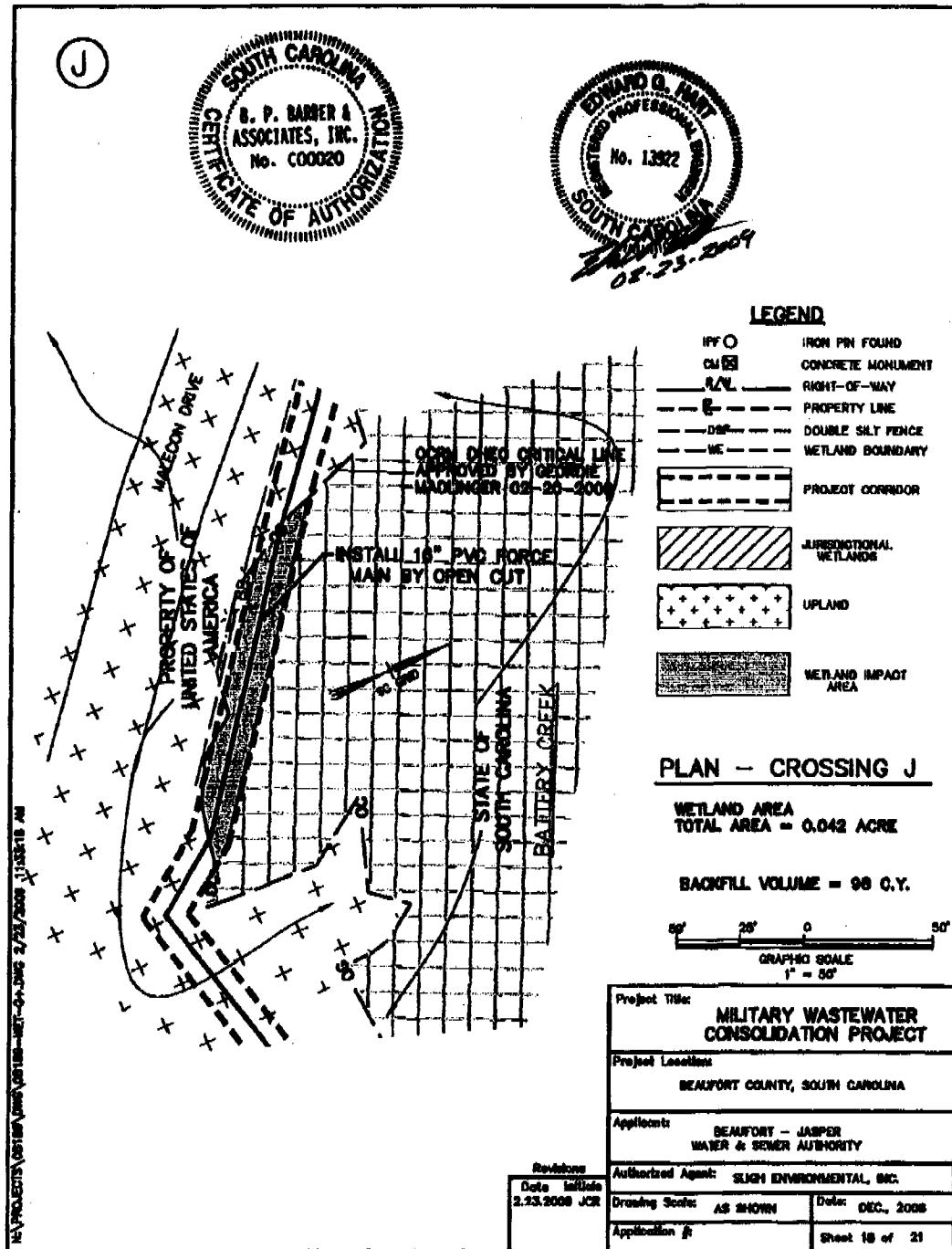
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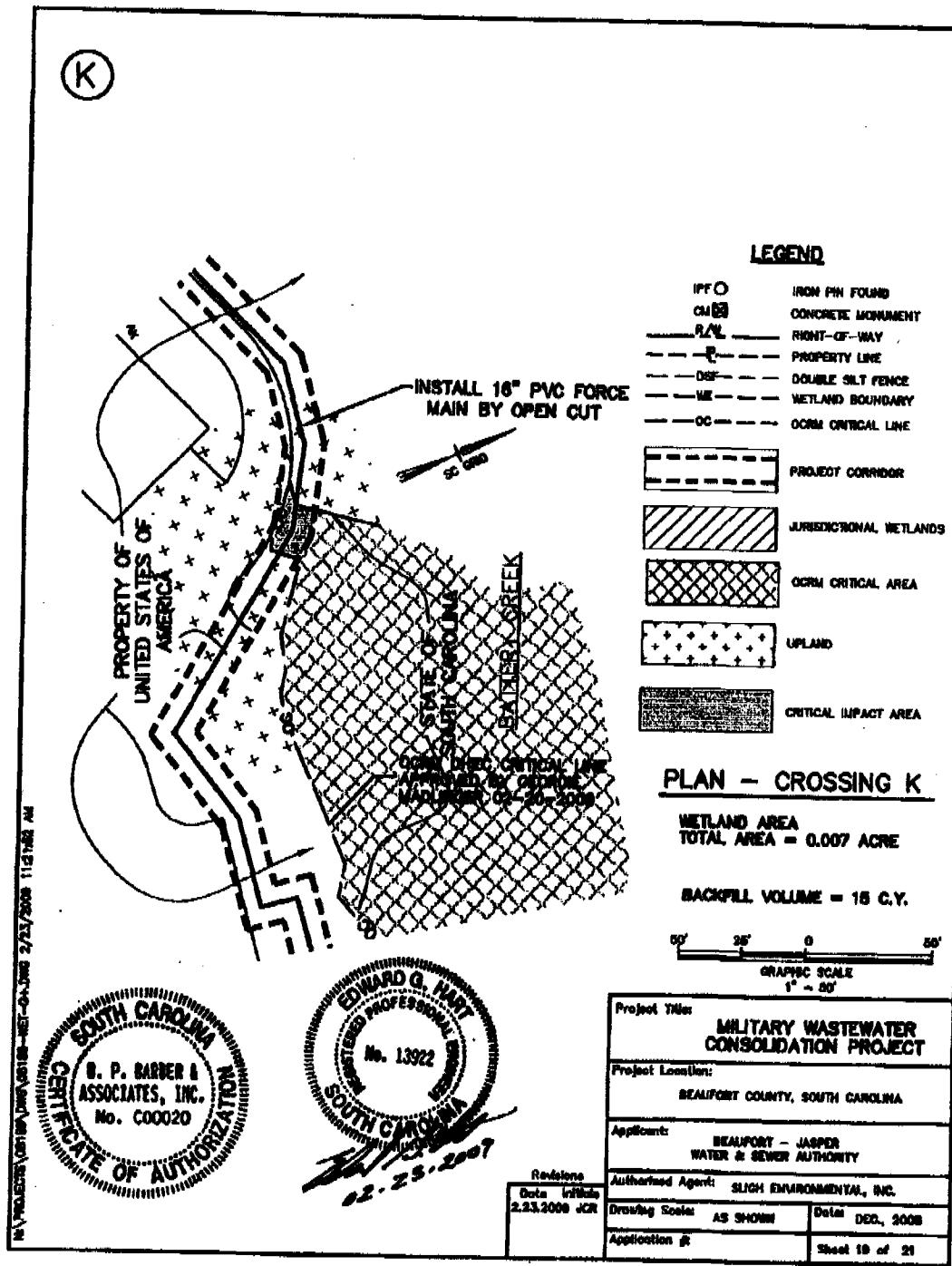


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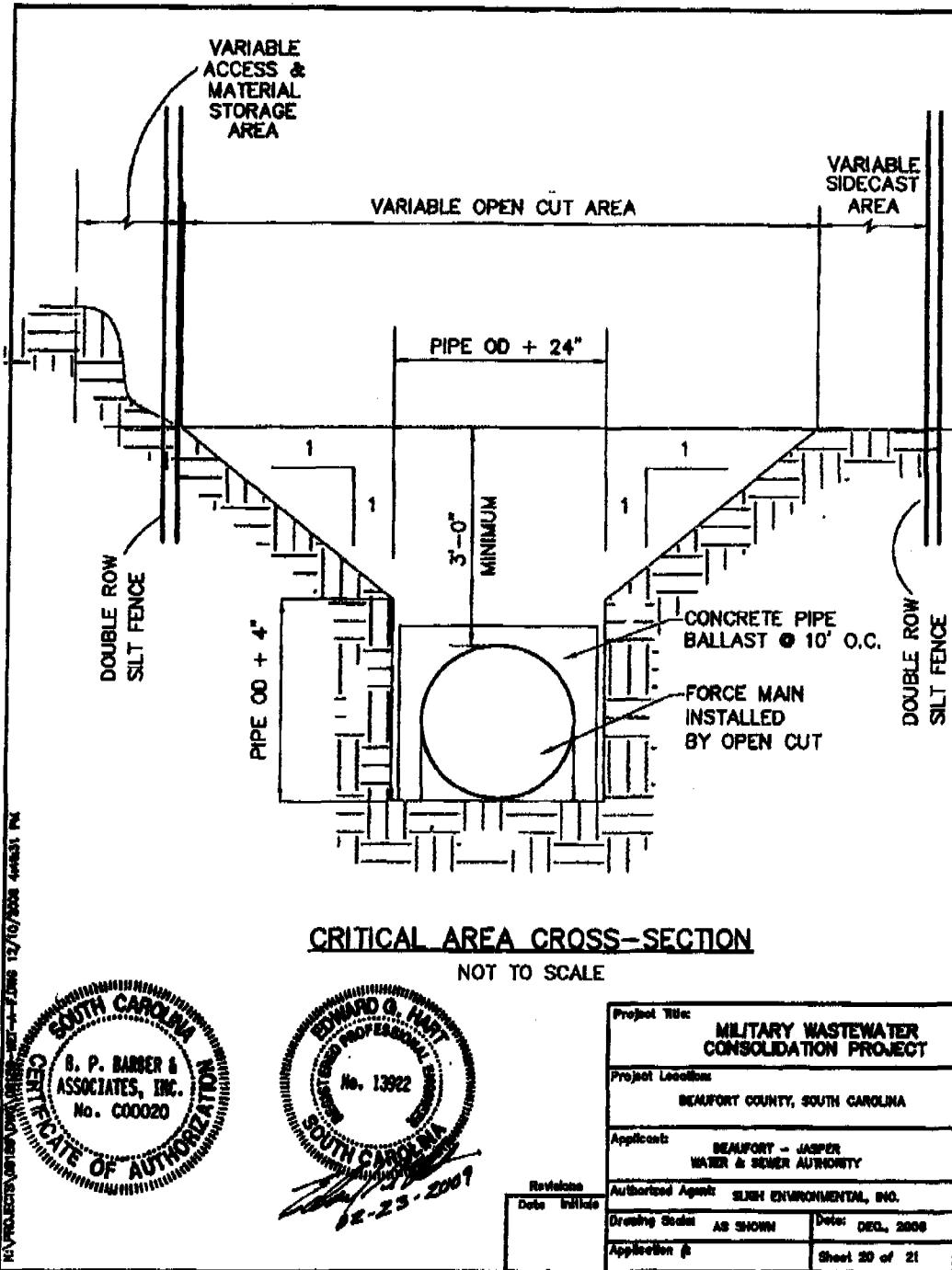


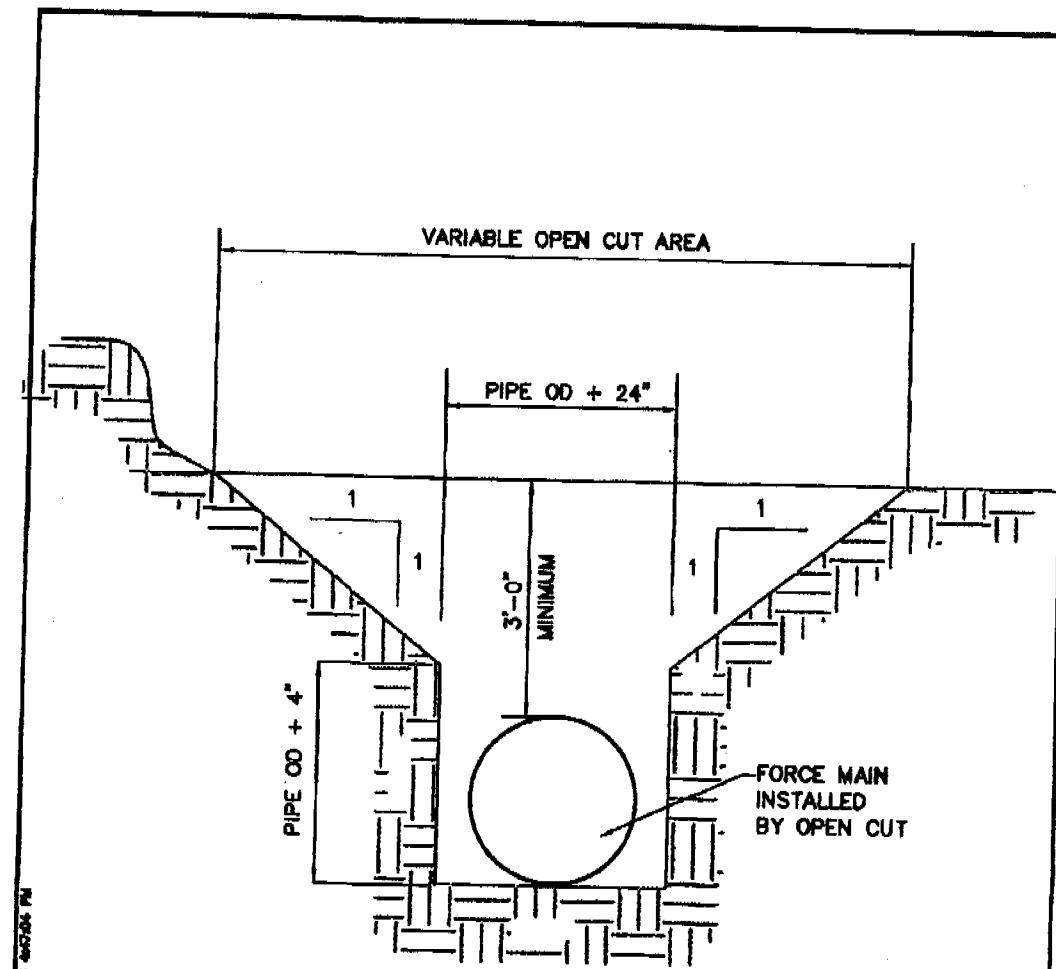
OCRM-09-819-G



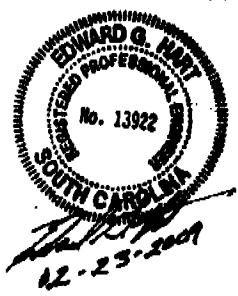
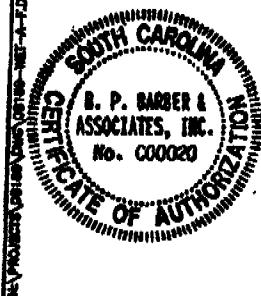


OCRM-09-819-G



WETLAND CROSS-SECTION

NOT TO SCALE



Project Title: MILITARY WASTEWATER CONSOLIDATION PROJECT	
Project Location: BEAUFORT COUNTY, SOUTH CAROLINA	
Applicant: BEAUFORT - JASPER WATER & SEWER AUTHORITY	
Authorized Agent: SLIGH ENVIRONMENTAL, INC.	
Drawing Scale: AS SHOWN	Date: DEG, 2008
Application #: Sheet 21 of 21	

OCRM-09-819-G

**MILITARY WASTEWATER  
CONSOLIDATION PROJECT  
HORIZONTAL DIRECTIONAL DRILL**

*Little Horse Island to  
Jericho Island*

For  
Beaufort-Jasper Water  
& Sewer Authority



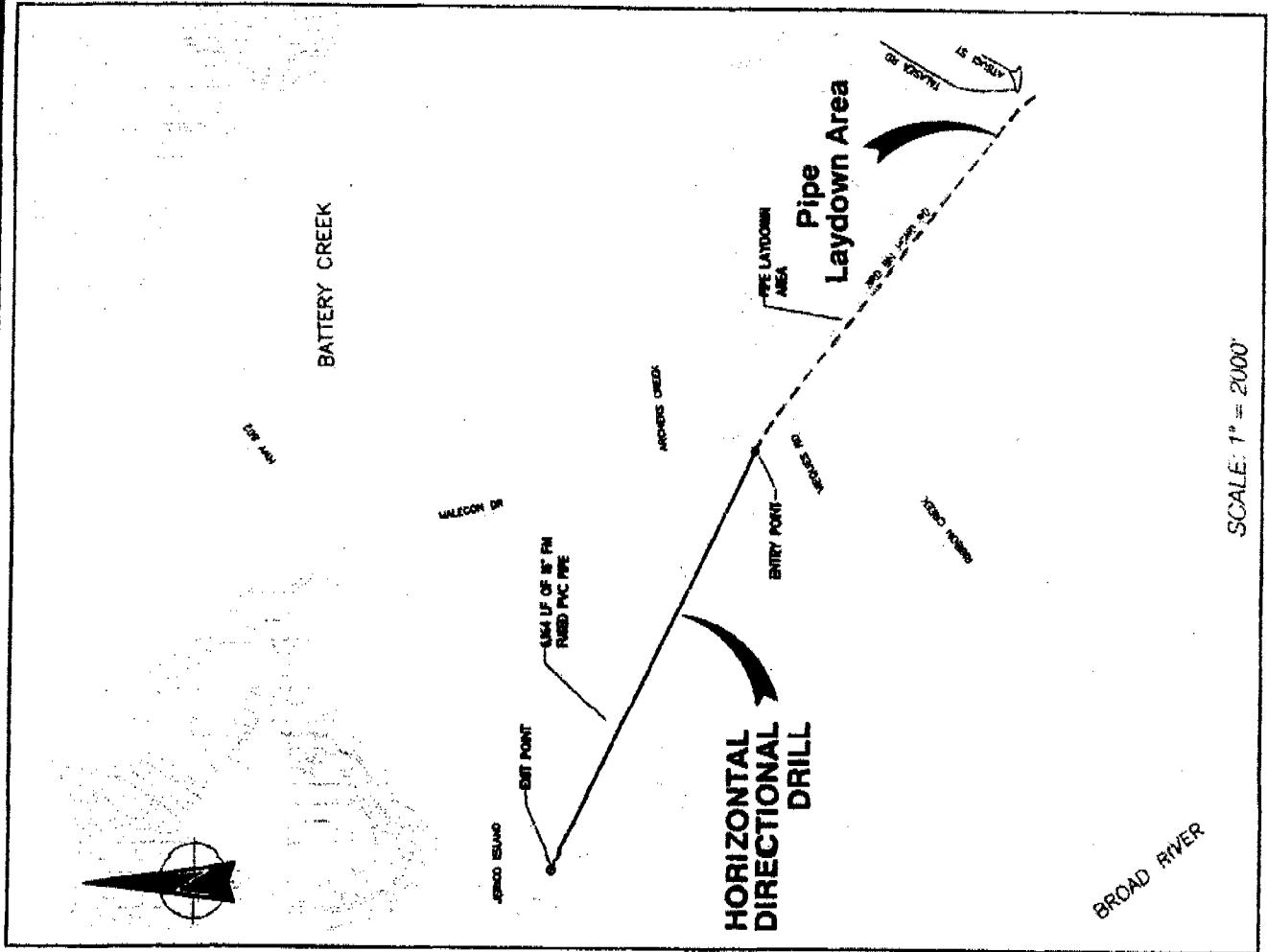
HUSSEY, GAY, BELL & DEYOUNG, INC.

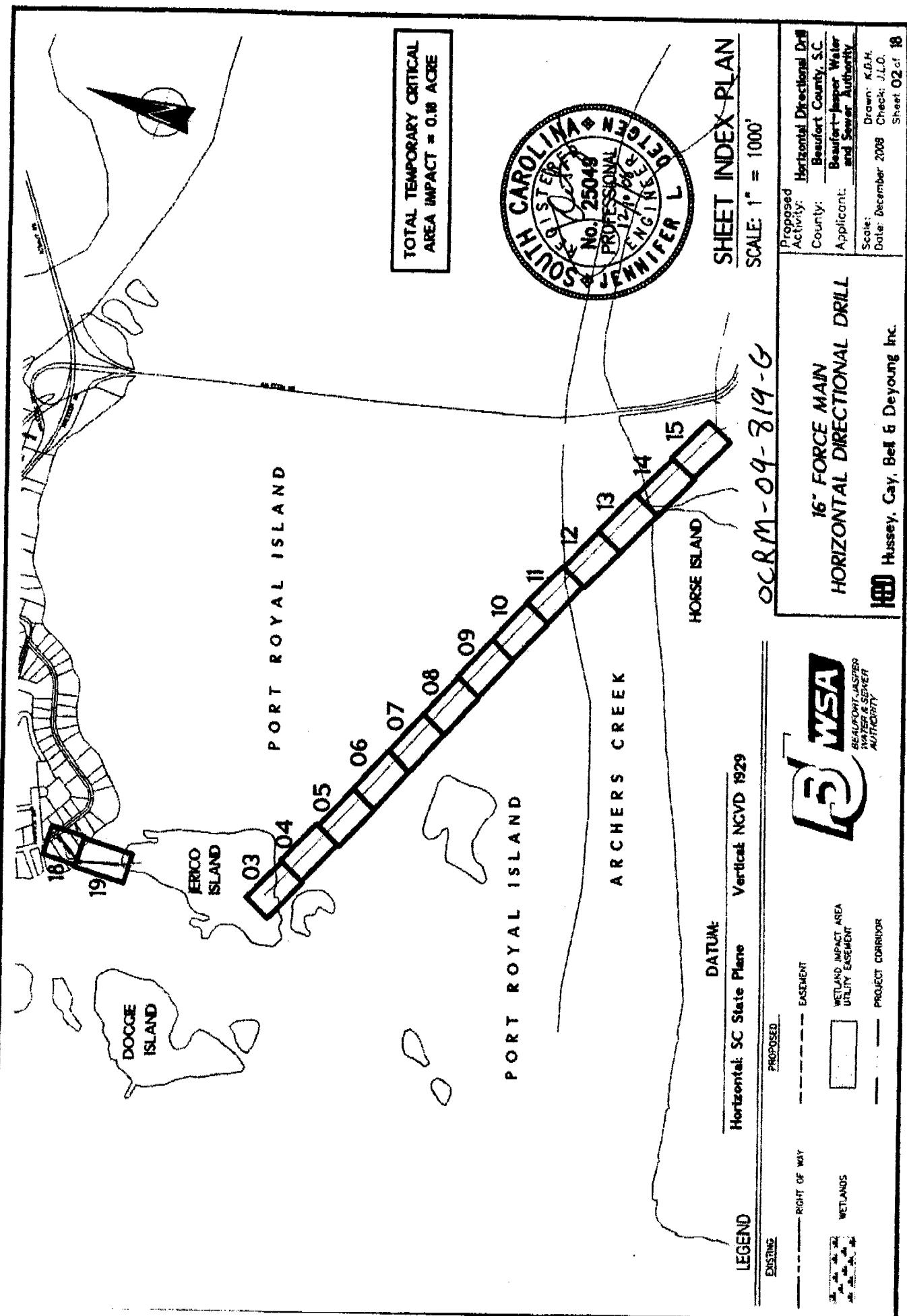
CONSULTING ENGINEERS

<b>SAVANNAH, GA</b> 325 COMMERCIAL DRIVE DAWSON, GEORGIA 31416 VOICE: (912) 354-6752 FAX: (912) 354-6754	<b>GAINESVILLE, GA</b> 625 GREEN STREET N.E. GAINESVILLE, GEORGIA 30501 VOICE: (770) 535-1733 FAX: (770) 535-1134	<b>COLUMBIA, SC</b> 1215 ASHER STREET COLUMBIA, SC 29202 VOICE: (803) 739-0444 FAX: (803) 739-1495	<b>MOUNT PLEASANT, SC</b> 749 JOHNNIE DOODS BLDG. SUITE A MOUNT PLEASANT, SC 29464 VOICE: (803) 849-7500 FAX: (803) 849-7502
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Sheet 1 of 18

OCRM-04-819-6





See SHEET 04  
for Continuation

REMOVE TREES

16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL

EXIT POINT  
E2083161.93  
N194251.95

Jericho Island

30' PROJECT CORRIDOR



PLAN

SCALE: 1" = 50'

Proposed Activity: Horizontal Directional Drill  
County: Beaufort County, S.C.  
Applicant: Beaufort-Jasper Water and Sewer Authority  
Scale: December 2008  
Drawn: K.D.H.  
Check: J.L.O.  
Sheet 03 of 18

WSA  
BEAUFORT-JASPER  
WATER & SEWER  
AUTHORITY

OC RM-09-819-G

PROPOSED

EASEMENT  
WETLAND IMPACT AREA  
UTILITY EASEMENT

EXISTING  
RIGHT OF WAY  
WETLANDS  
PROJECT CORRIDOR

16" FORCE MAIN  
HORIZONTAL DIRECTIONAL DRILL

Hussey, Gay, Bell & DeYoung Inc.

See SHEET 05  
for Continuation

16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL

See SHEET 03  
for Continuation

00+8

00+7

00+9

00+5

00+3

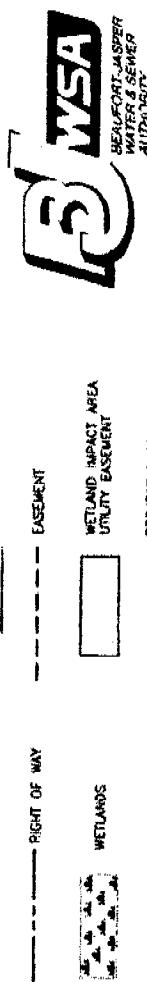
00+4



30' PROJECT CORRIDOR

LEGEND  
EXISTING  
WETLANDS  
RIGHT OF WAY  
EASEMENT  
WETLAND IMPACT AREA  
UTILITY BASEMENT  
PROJECT CORRIDOR

OCRM-09-819-G



Proposed Activity: Horizontal Directional Drill  
County: Beaufort County, S.C.  
Applicant: Beaufort-Jasper Water & Sewer Authority  
Scale: 1" = 50'  
Drawn: K.D.H.  
Checked: J.L.O.  
Sheet 04 of 18

**16" FORCE MAIN  
HORIZONTAL DIRECTIONAL DRILL**

Hussey, Gay, Bell & DeYoung Inc.

16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL

See SHEET 06  
for Continuation

00+0  
00+1  
00+2  
00+3  
00+4  
00+5  
00+6

30' PROJECT CORRIDOR



PLAN

SCALE: 1" = 50'



16" FORCE MAIN  
HORIZONTAL DIRECTIONAL DRILL

Hussey, Cay, Bell & Deyoung Inc.

Proposed Horizontal Directional Drill  
Activity: Beaufort County, S.C.  
County: Beaufort-Jasper Water  
Applicant: and Sewer Authority  
Scale: K.D.H.  
Date: December 2008  
Check: J.L.O.  
Sheet 05 of 18

O.C.R.M.-09-819-G

PROPOSED

EASMENT

WETLAND IMPACT AREA

—

UTILITY EASEMENT

—

PROJECT CORRIDOR

EXISTING

RIGHT OF WAY

—

WETLANDS

—

See SHEET 04  
for Continuation

16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL.

See SHEET 07  
for Continuation

See SHEET 05  
for Continuation

18-00  
17-00  
16-00  
15-00  
14-00

30' PROJECT CORRIDOR



PLAN

SCALE: 1" = 50'

Proposed Activity:	Horizontal Directional Drill
County:	Beaufort County, S.C.
Applicant:	Beaufort-Jasper Water and Sewer Authority
Date:	December 2003
Check:	J.L.G.
Sheet:	06 of 18



OCRM-09-819-G

LEGEND	
EXISTING	RIGHT OF WAY
PROPOSED	BASEMENT
	WETLAND IMPACT AREA
	UTILITY EASEMENT
	PROJECT CORRIDOR
WETLANDS	<input type="checkbox"/>
WATER SOURCE	<input type="checkbox"/>

16" FORCE MAIN HORIZONTAL DIRECTIONAL DRILL
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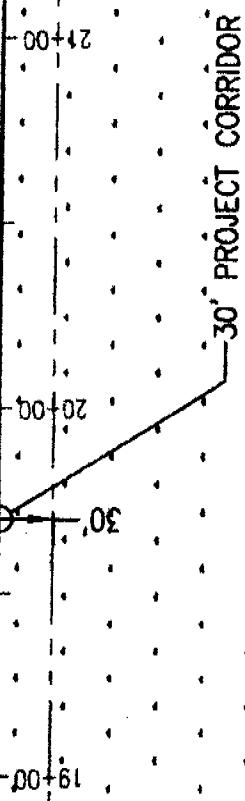
Hussey, Gay, Bell & Deyoung Inc.



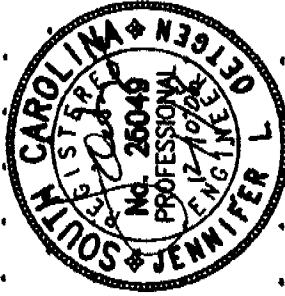
See SHEET 08  
for Continuation

16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL

M A R S H



See SHEET 06  
for Continuation



PLAN  
SCALE: 1" = 50'

Proposed Activity:	Horizontal Directional Drill
County:	Beaufort County, S.C.
Applicant:	Beaufort-Jasper Water and Sewer Authority
Date:	December 2008
Drawn:	K.D.H.
Check:	J.L.Q.
Sheet:	07 of 16

OCRM-09-819-G

WSA

BEAUFORT-JASPER  
WATER & SEWER  
AUTHORITY

EASEMENT  
WETLAND IMPACT AREA  
WETLANDS  
PROJECT CORRIDOR

LEGEND  
EASEMENT  
RIGHT OF WAY  
WETLANDS  
PROJECT CORRIDOR

M A R S H  
16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL

See SHEET 09  
for Continuation

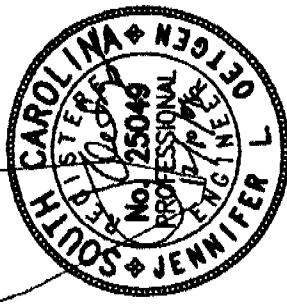
M A R S H

See SHEET 07  
for Continuation

30' PROJECT CORRIDOR

M A R S H

28+00  
27+00  
26+00  
25+00  
24+00



**PLAN**  
SCALE: 1" = 50'



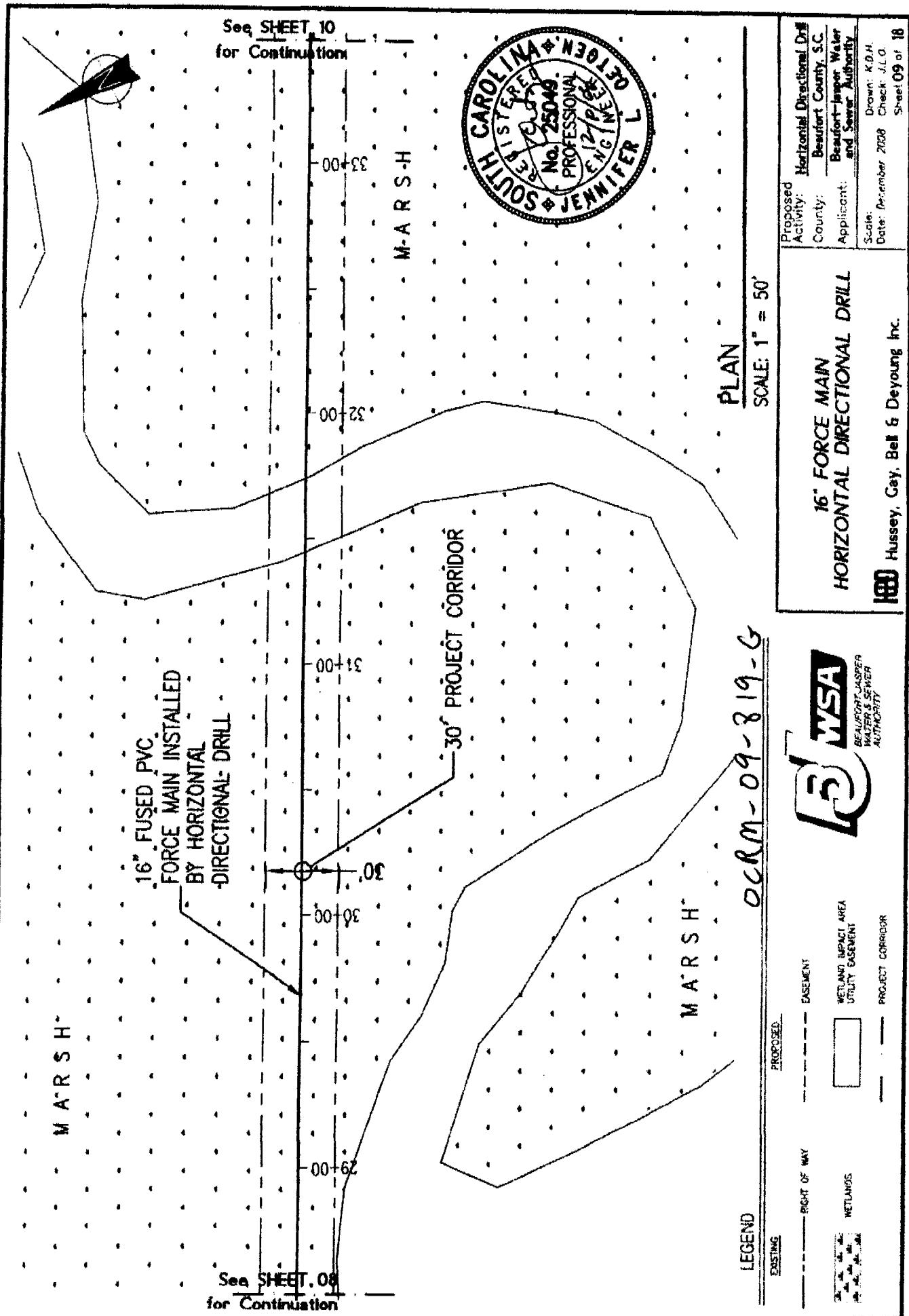
16" FORCE MAIN  
HORIZONTAL DIRECTIONAL DRILL

Hussey, Gay, Bell & Deyoung Inc.

Proposed Horizontal Directional Drill  
Activity: Beaufort County, SC  
County: Beaufort-Jasper Water  
Applicant: and Sewer Authority  
Scale: December 2008 Drawn: K.D.H.  
Date: Street 08 of 18 Check: J.L.O.

O C R I M - 09-819-6

LEGEND	PROPOSED
RIGHT OF WAY	-----
EASEMENT	-----
WETLANDS	■
WETLAND IMPACT AREA	□
UTILITY EASEMENT	—
PROJECT CORRIDOR	—





See SHEET 11  
for Continuation

M A R S H

16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL

See SHEET 09  
for Continuation

38+00

37+00

36+00

35+00

34+00

33+00

32+00

31+00

30+00

29+00

28+00

27+00

26+00

25+00

30' PROJECT CORRIDOR

M A R S H



LEGEND  
EXISTING  
PROPOSED  
RIGHT OF WAY  
WETLANDS  
WETLAND IMPACT AREA  
UTILITY EASEMENT  
PROJECT CORRIDOR



OCRM-09-819-G

PLAN  
SCALE: 1" = 50'

Proposed Activity:	Horizontal Directional Drill
County:	Beaufort County, S.C.
Applicant:	Beaufort-Jasper Water and Sewer Authority
Scale:	1" = 50'
Date:	December 2008
Check:	J.L.G.
Sheet:	10 of 18

16" FORCE MAIN HORIZONTAL DIRECTIONAL DRILL
--

Hussey, Cay, Bell & DeYoung Inc.

M A R S H

16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL

See SHEET 12  
for Continuation

43+00  
42-00  
41+00  
40-00  
39+00

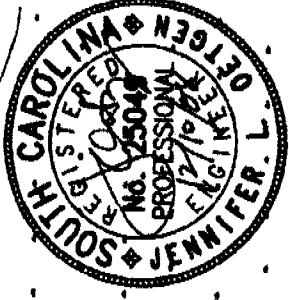
30' PROJECT CORRIDOR

M A R S H

LEGEND

	RIGHT OF WAY
	EASEMENT
	WETLANDS
	WETLAND IMPACT AREA UTILITY EASEMENT PROJECT CORRIDOR

See SHEET 10  
for Continuation



PLAN

SCALE: 1" = 50'

Proposed Activity:	Horizontal Directional Drill
County:	Beaufort County, S.C.
Applicant:	Beaufort-Jasper Water and Sewer Authority
Date:	December 2008
Check:	J.L.O.
Sheet:	11 of 18



Dec 2008-09-09-6

Hussey, Cay, Bell & Deyoung Inc.



See SHEET 13  
for Continuation

16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL

See SHEET 11  
for Continuation

48+00  
47+00  
46+00  
45+00  
44+00

30' PROJECT CORRIDOR

M A R S H



PLAN

SCALE: 1" = 50'

Proposed Activity:	Horizontal Directional Drill
County:	Beaufort County, S.C.
Applicant:	Beaufort-Jasper Water and Sewer Authority
Date:	December 2008
Check:	J.L.O.
Sheet:	12 of 18



OCRM-09-819-G

LEGEND  
EXISTING  
PROPOSED

RIGHT OF WAY  
EASEMENT  
WETLAND IMPACT AREA  
PROJECT CORRIDOR

NETLANDS  
WATER & SEWER AUTHORITY

Hussey, Gay, Bell & Deyoung Inc.





See SHEET 15  
for Continuation

16" FUSED PVC  
FORCE MAIN INSTALLED  
BY HORIZONTAL  
DIRECTIONAL DRILL

00+85

00+00

57-00

00+95

00+00

00+55

00+00

00+15

00+00

00+15

00+00

00+00

00+15

00+00

00+00

00+15

00+00

See SHEET 13  
for Continuation



**PLAN**

SCALE: 1" = 50'

Proposed Activity: Horizontal Directional Drill  
County: Beaufort County, S.C.  
Applicant: Beaufort-Jasper Water and Sewer Authority

Drawn: K.B.H.  
Check: J.L.O.  
Sheet 14 of 18



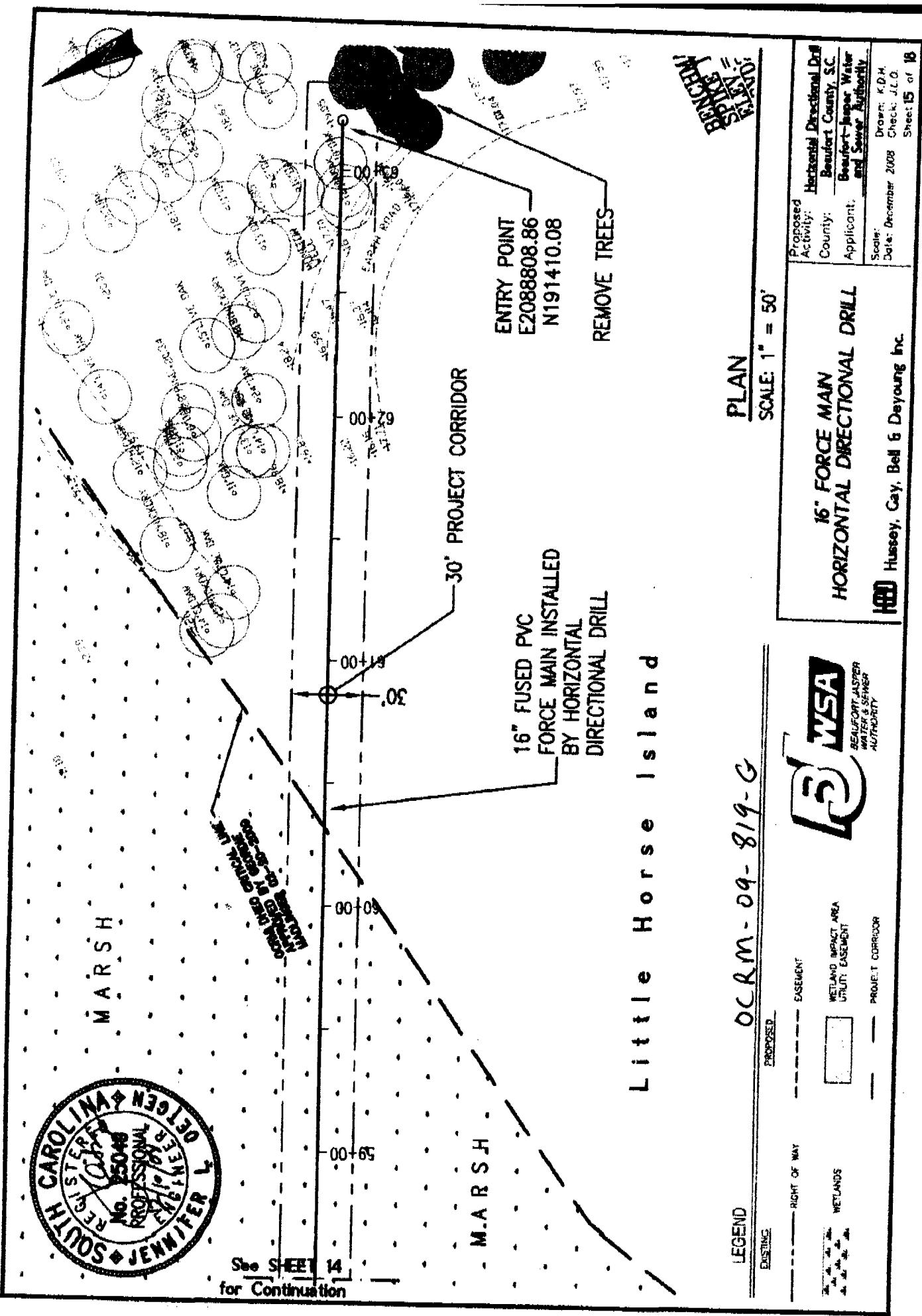
OCRM-09-819-G

**LEGEND**

EXISTING	PROPOSED
—	—
RIGHT OF WAY	BASEMENT
WETLANDS	WETLAND IMPACT AREA
WATER	UTILITY EASEMENT
WATER	PROJECT CORRIDOR

16" FORCE MAIN  
HORIZONTAL DIRECTIONAL DRILL

Hussey, Cay, Bell & DeYoung Inc.





CONNECT TO EXISTING 16" FORCE MAIN  
W/ RJ 45 BEND (BY OTHERS)

OCEAN ISLAND CRITICAL LINE  
APPROVED BY SOUTHERN  
MASSAGE CO-20-2000

10" BENT  
PIPE

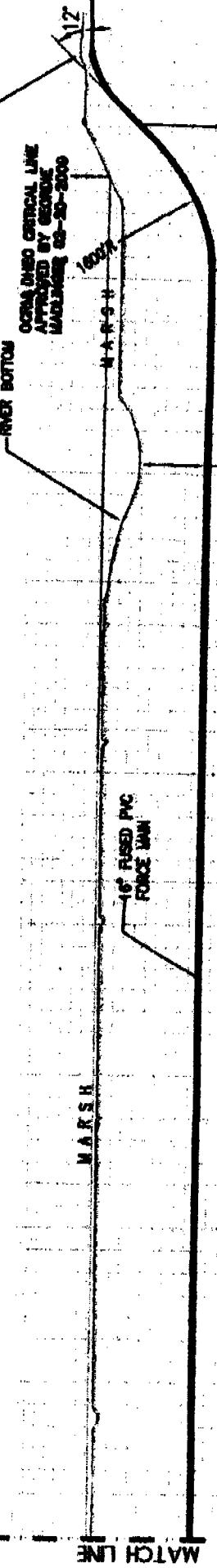
16" FUSED PVC  
FORCE MAIN

RIVER BOTTOM

MARSH

MATCH LINE

CONNECT TO EXISTING 16" FORCE MAIN  
W/ RJ 45 BEND (BY OTHERS)



PROFILE  
SCALE: NTS

OC R M-09-819-G

EXISTING	—	EASMENT
WETLANDS	—	NETLAND WETLAND AREA UTILITY EASMENT
PROJECT CORRIDOR	—	PROJECT CORRIDOR
	■	



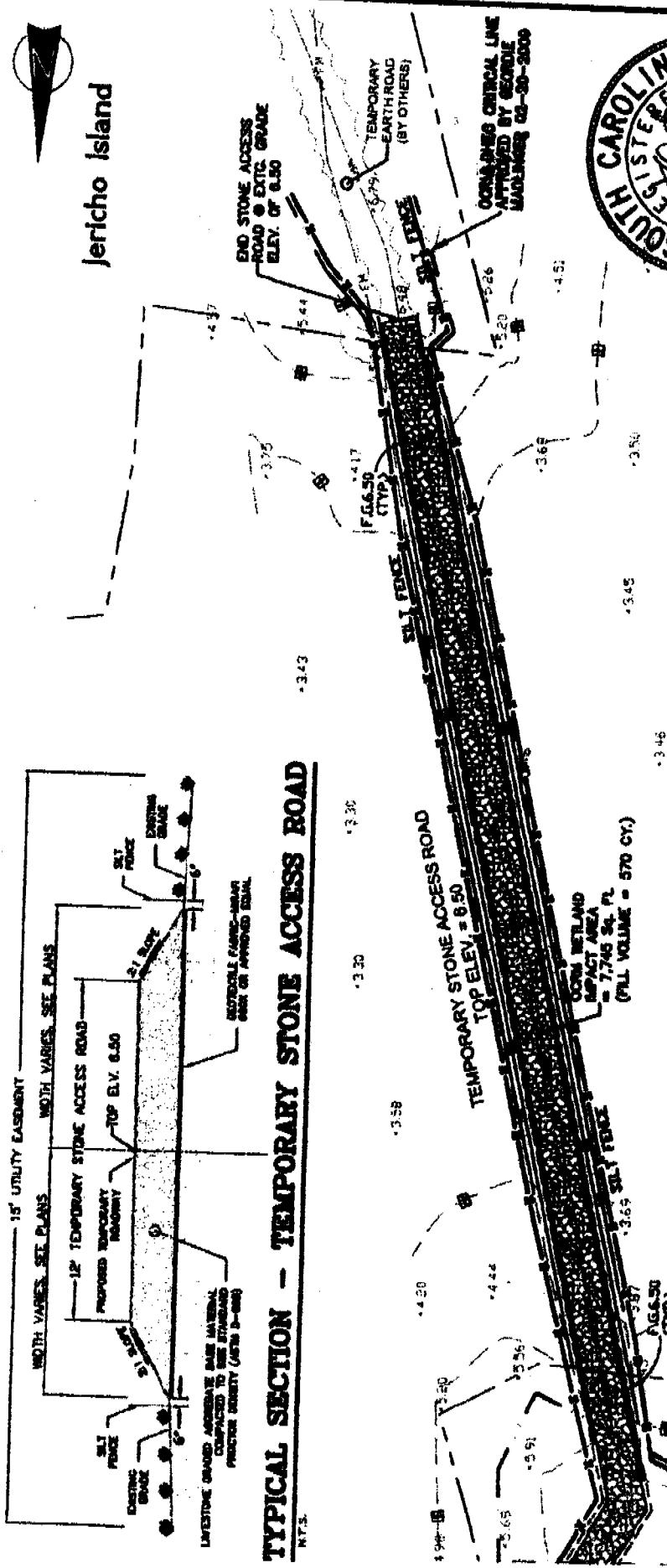
Proposed Activity:	Horizontal Directional Drill
County:	Beaufort County, S.C.
Applicant:	Beaufort-Paper Water and Sewer Authority
Date:	December 2008
Drawn:	K.D.H.
Sheet:	16 of 18

Hussey, Gay, Bell & Deyoung Inc.



Jericho Island

**TYPICAL SECTION - TEMPORARY STONE ACCESS ROAD**



See SHEET 18  
for Continuation

PLAN - TEMPORARY ACCESS ROAD

SCALE: 1" = 50'

5 WSA



PROPERTY EASEMENT

Proposed Activity:	<u>Herbicide Directional Drift</u>
County:	<u>Beaufort County, S.C.</u>
Applicant:	<u>Beaufort-Jasper Water and Sewer Authority</u>

Scalier: Date: December 2008 Drawn: K.D.H.  
Check: J.L.O. Sheet 18 of 18